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The Systematic Study of Town Planning.

THE offer, which we announce on another page, that Mr. W. H. Lever has made, through Professor Reilly, to the School of Architecture of the University of Liverpool, to initiate a department for the systematic study of and instruction in Town Planning, is the first practical step which has been taken in this country to approach the architectural side of this important subject. Hitherto in England we have been in danger of falling between two stools—the practical sanitary considerations on the one hand, and the ultra-sentimental ideas which prompted the Garden City movement (itself largely the outcome of amateur enthusiasms) on the other; while the simple necessity for architectural treatment of the subject has been entirely neglected. The cottages which have been built at Letchworth may have been interesting as a study in cheap materials, but the result has been disastrous architecturally; houses of every conceivable material and design jostling each other in complete confusion, showing that the promoters of the enterprise, though they had a fine enthusiasm and certain excellent ideas about the circulation of air round houses, were yet ignorant of the true basis of town design. And this ignorance is hardly to be wondered at seeing that in this country no architect has a chance of studying the ordered and conscious planning of a town, except perhaps in the case of Bath; and the buildings there, however fine in themselves are hardly suitable as a type for a growing manufacturing town.

A careful study of what has been done and is now being done in Germany, France, and America is absolutely necessary before a general system and basis can be established on which to build a study of the subject adapted to the requirements of our own country. The Sociological aspect of the work which is being done at present in Germany has been carefully investigated by Mr. T. C. Horsfall and others, and Mr. Horsfall's compilation, "The Example of Germany," contains a mass of most valuable information; but although he continually mentions the importance of the "building plans" adopted in various towns, not being an architect, he does not explain them architecturally, and only gives reproductions of one or two plans. Again the excellent half-volume on Town-Building [*Städtebau*] by J. Stübben in the Handbook of Architecture, is hardly accessible to the ordinary English architect. Obviously then the Liverpool School of Architecture has decided rightly that the first work of its new department should be to send architects to these countries to collect all the information they can obtain on the subject. Such a course could only be possible with the financial support of so generous a donor as Mr. Lever. No English architectural society or committee, however influential, could have undertaken such an extensive piece of research. This gift, therefore, comes very opportunely in the face of the rebuff which the Institute recently received when emphasising the fact that the question is, in fact, a purely architectural one—architecture in the largest sense.

We all agree that in modern building the old craftsmanship theory is impossible—the theory which maintained that the right way to obtain a really fine building, truthful to its epoch, was to collect a vast quantity of bricks, stone, lime, cement, iron and glass on a site, and direct a body of workmen to cover in a space of the required size as best they could. The need for the existence of the architect who has thought out and completely designed his building before a brick is on the site or a builder is asked to estimate, we may take for granted. The absurdity of doing without him nowadays for any but the simplest structure is too gross to need refutation; yet the building of the much more complex structure—a modern town—in which the separate houses may be looked upon in the light of the individual stones and bricks of the single building, is still undertaken without a directing mind or guiding hand. A row of houses, a few streets are run up without any reference to what is to happen eventually in the district. Probably some urban district council offices or post office will be wanted in the near future by the growing suburb, but no plot of land has been marked out for it, with suitable approaches and a setting which will justify the expense which the building will probably entail. Any vacant plot which happens to have been spared by the jerry builder is taken by the community at large for their council offices, or by the Government for its post office, and the building accommodates itself as best it can to the awkward site or the mean approach.

This state of mind, as Professor Blomfield points out, is inconceivable to the logical intelligence of a Frenchman

he cannot understand why the best building in the district should not be placed on the best site and the whole town or suburb consciously modelled in advance to provide for this clearly foreseen growth. In Germany it is the regular practice for a town to have its building plan drawn out by some competent architect, so that all its growth must proceed along certain definite lines. Mannheim, a manufacturing town, which has grown rapidly in the last few years, employed Professor Baumeister* "to prepare building plans for them which must be complied with by all persons who build in or near Mannheim." "The description of the building plan . . . shows that the new part of the town will be provided with a remarkably complete system of narrow railways for passenger traffic, and with an equally complete system of railway lines of the ordinary width, leading from goods stations in all directions, for goods traffic, which will enable every manufactory to load goods on to trucks on its own premises. Carriage, therefore, will be exceptionally cheap in the town. Yet the town council, who are thinking so much of economical working, recognise that even their poorest fellow citizens are men and women, whose bodies and minds need wholesome recreation and an abundant supply of fresh air, of light, and of the influence of flowers and trees. The building plan, therefore, provides for the creation of avenue streets of widths varying from 24 to 43 yds.," and Professor Baumeister adds: "Of course, care has been taken to provide open spaces, decorative shrubberies, parks, and sites for public buildings."

Thus commercial advantages, commonsense hygiene, and architectural design (which is almost taken for granted) are all included in this plan. The Bill at present before Parliament and the Bill which we understand Liverpool is trying to obtain for itself, do not attempt in any way to ask for such comprehensive powers as German towns already possess; they are the merest tentative beginnings, but they are important as showing that we are at last waking up to the necessity of doing something in the matter. Public interest needs to be aroused and opinion educated, and it will be a long time before our town councils obtain complete control over the growth of their respective towns; but we feel that a properly organised school, such as is contemplated at Liverpool, is the best and soundest way of approaching the subject, especially when it is supported by so clear a financial mind as Mr. Lever's.

We must hope that under the influence of such teaching English towns will grow towards a sense of unity; and this unity may become conscious in a similar manner to the gradual emergence of the personality of the architect in the Renaissance. Thus the mediæval buildings represented the general ideas and aspirations of whole peoples, almost unconsciously realised, and as this instinctive art waned, there arose the conscious and considered work of the architect, already visible in late Gothic, attempting to free himself from journeymen carvers in Jacobean days, and at last emerging as the master of his own design in Inigo Jones and his followers. So town architecture produced the delightful mediæval picturesqueness which we admire in the old parts of Amiens or Salisbury, which the Gothic revival attempted to resuscitate in our modern streets, with the disastrous results which may be seen in any town in England to-day. In the same way in which the buildings in existing streets have been allowed to take care of themselves, without any thought of their neighbours, the new streets have been allowed to wander in any direction they please, with the vague idea (if any idea there were) that the result would be somehow picturesque. But the sooner we realise that accidental picturesqueness is *not* a quality which modern planning can consciously aim at, the better; and in place of it we must seek a conscious and orderly arrangement which will possess a beauty of its own. When the general public realise this, legislation will naturally follow in the direction of this trend.

The problem in England will be one of ordered growth of old towns rather than the planning of new ones. Therefore, no literal transcriptions from foreign towns should be attempted, but the character of each locality should be preserved at all costs. A mere system of Hausmannising would be hardly satisfactory, though for the moment we could in most of our towns stand a good deal of it. The method of study, therefore, we imagine will be to take different places and evolve treatments, or exercises suitable to special requirements, using all the information which has been obtained from a first-hand study of existing examples.

We understand, also, that Mr. Lever's gift will include facilities for studying the necessary adjuncts to town planning; the laying out and design of parks and terraces, the study of the most suitable trees for town planting, and various treatments in the way of clipping and grafting which form an important feature in this branch of civic design.

We have already pointed out that in several respects the Liverpool School of Architecture resembles in its course of study the Ecole des Beaux Arts at Paris, and we imagine that those magnificent "concours" of the latter school, which involve the treatment of a whole "Place" with its surrounding buildings, will give Professor Reilly and his colleagues suggestions for exercises in design in the grand manner for the more advanced students, in addition to the more utilitarian aspects of the subject for such students as wish to become borough architects and surveyors, and may avail themselves of the school.

At all events the establishment of a first-class school in this country for the definite study of town planning is a most important step, and one that opens a great opportunity to the Liverpool School of Architecture.

* From T. C. Horsfall, "Example of Germany." 1s. net. Manchester.

ROMSEY ABBEY.—A faculty has been granted to the vicar of Romsey for the erection of a porch at the north-west door of the abbey, in accordance with plans prepared by Mr. Carõe, F.S.A., Architect to the Ecclesiastical Commissioners. One of the chief reasons in favour of the proposal is that a porch would protect the dog-tooth work, which has nearly perished for want of protection.

THE POSSIBLE IMPROVEMENT OF THE NATIONAL GALLERY AND TRAFALGAR-SQUARE.

BY H. HEATHCOTE STATHAM, F.R.I.B.A.

THE idea that something might be done to render the National Gallery more worthy of its splendid site, and to get something more of decorative effect out of Trafalgar-square as the foreground of the building, has been on my mind for some fifteen years back.

The details of Wilkins's building are very refined and in a true classic spirit; and in regard to the weak treatment of the ends of his façade Professor Aitchison has shown the probability that he was not allowed to carry out this portion of the front as he had intended. But the small and rather mean-looking cupola is surely a very poor central feature for such a building on such a site, and the sham window openings and architraves along the upper story of the front are but a commonplace way of filling a wall space which, in fact, had better have been left blank than treated in this manner.

My first perspective sketch for a proposed remodelling of the front block, in exterior and in plan, was published in the *Builder* for January 6, 1894, and in the same year a watercolour drawing of it was exhibited at the Royal Academy, having had the odd fate to be at first rejected and then, without further notice, to me, hung in a central position in the Architectural Room. My idea was to get a large central mass in the design, instead of the present small cupola, to dominate, as it were, Trafalgar-square. I came to the conclusion afterwards, however, that there was a little too much of "megalomania" in the design, and that my central mass was *too* large. The design, however, did not go without some gratifying commendation, in the shape of a congratulatory letter from one architect member of the Royal Academy, a very flattering notice in the *Art Journal*, and an enthusiastic letter from the late H. W. Brewer, who seemed to think the design had reduced Wilkins to a rather secondary place.

However, I felt no doubt that the centre was too large, and made a second attempt, which was published in the shape of an elevation in the *Builder* of July 2, 1904, having been also exhibited at the Royal Academy. The centre dome was much reduced in this, and I think it was a better design; but two or three points dissatisfied me afterwards. In these two first designs there was a semi-circular bay at each end wing, with columns engaged for three-quarters of their height, the upper portion and capitals being left free with a shadowed space behind them, within which a gilded lead-covered semi-dome would have been seen covering one apse of the proposed sculpture hall. This (which was suggested by the quadrant curve of the street railing and footpath at the east end, the apse being made concentric with this) would have looked well enough in itself, but it seemed to me afterwards that it was out of keeping with the generally flat and square character of the façade.

In the third design, published in this

issue of the *Builder* (see lithograph) these apses are abandoned and a square projection with an order and a pediment substituted, still keeping however the same device of having the colonnade engaged in the lower portion and open above, which expresses the interior treatment of the ceiling of this portion. These features, with columns and pediment, in fact come pretty near to what Professor Aitchison considered that Wilkins had intended at this point. The end cupolas, which were too high and disturbed the line of the building, have been reduced to very low domes of segmental section externally, symmetrically pierced with lights for the sculpture hall below. In place of the row of sham windows, which could be easily faced up, the upper portion of the curtain walls is shown decorated with a long frieze in low relief, which might typify the development of the Arts; such a frieze as Mr. Pomeroy, I am sure, would be very glad to model for such a situation.

All that is best in Wilkins's work is here preserved: the central portico with the fine treatment of the entrance in its rear; the intermediate porticos; the exterior steps with the admirable treatment of their containing walls; the ground story windows and doors; and the fine cornice. The end wings, as already observed, are probably not as Wilkins intended them, and therefore their alteration from the present very weak form is, in that respect, a matter of no consequence. A new street railing is suggested. with stone piers with terminal heads, an idea suggested by the well-known example at Oxford, though these would be treated in a more classic spirit. They might be designed and carved so as to have some symbolical signification. The "pepper-pots" are removed (and no one will miss them), but the finish of the small cupolas flanking the dome is purposely treated as a kind of reminiscence of the detail of the pepper-pots.

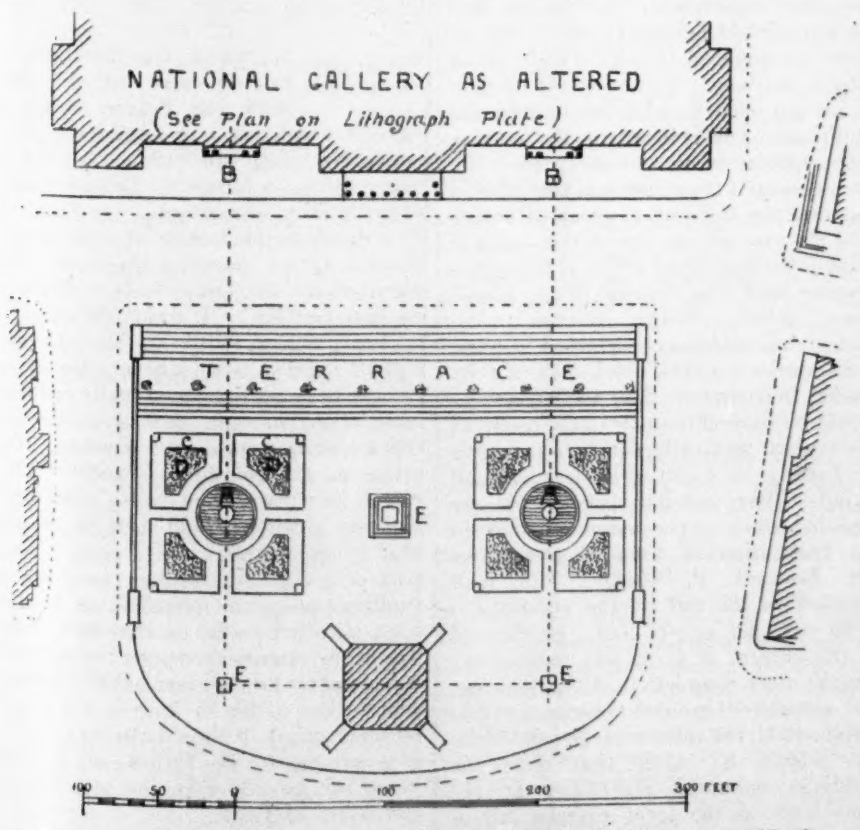
I think it will be admitted that the building as here suggested would have at least a more impressive and dignified effect, for the position, than the National Gallery façade as it stands. The existing building is, in fact, a design that is very refined in detail, and very weak when considered as a whole.

But the plan is the most important point of all. The present plan of the front block is really preposterous When, a good many years ago, a former rather restless First Commissioner took upon him to improve the entrance to the Gallery, instead of clearing out the existing staircases and making one large and dignified central staircase, he left the original staircases (now practically useless), and achieved in a confined central space a staircase so arranged that to come from the centre to the side galleries, or from one side of the building to the other, visitors have to go down one flight of steps and up another! I do not suppose there is a public gallery or museum in the world with such an absolutely absurd arrangement. Only look at the left-hand plan on the drawing and see what a jumble the centre part of that plan is. There is nothing axial in it; there is no interior vista; and there are three staircases with no architectural relation to one another, two of them of no use, and the third planned in the most inconvenient manner possible. What is proposed on my plan is to have a central hall with a domed ceiling (which might be decorated in mosaic), and two flights of wide steps stretching across it. On the main floor the visitor would come on a gallery round the hall, with an open colonnade right and left, and a vista right along the building across the central hall, along colonnaded galleries to the top-lighted sculpture hall at the end. I have suggested the colonnaded galleries for decorative art and the end halls for sculpture; there is surely no reason why a National Gallery of Art should confine itself entirely to painting. There will be differences of opinion as to the exterior treatment of the building suggested, but as to the plans I think I may safely say, to any one who understands the meaning of a plan—"Look on that picture and on this."

I have assumed that the ground westward of the present galleries (in the rear of the front block) could all ultimately be acquired, and that it is worth while *now* to consider, before it is too late, whether there is not the possibility of making a complete symmetrical plan for the National Gallery, coupled with an arrangement of the plan of the front block which I firmly believe, if carried out properly, would give an interior effect hardly to be surpassed anywhere.

Now a word as to Trafalgar-square. Here is a sketch plan suggesting how it might both be made more decorative and also be more closely connected with the architecture of the National Gallery. Instead of the balustrade and vertical wall at the north side, I would have the square terminate in two flights of wide steps running right across, with a terrace with seats and a row of small trees equidistant along it, on the level between the two flights of steps. These steps, leading straight up to the roadway, would form a kind of base to the building; and the wide steps right across the central hall of the building are intended as a kind of echo of this arrangement in the square. On the main level of the square would be laid out two parterres of grass and flowers, with a fountain in the centre of each; these fountains being placed axially with the intermediate porticos of the building (as shown by the dotted lines on the plan). The present commonplace fountains are not axial with anything (nothing ever is axial in London); they are just near enough to being axial with the porticos to look as if it had been intended but there had been a mistake in setting out their positions. The space in the centre of the square is left untouched for this reason: every proposal to beautify Trafalgar-square has been met by the objection that the masses have acquired a sort of right by custom to congregate and make speeches there. Well, in the centre portion, according to this plan, there is room for as many persons to congregate as can possibly hear a speech delivered from the base of the Nelson column, which is apparently the accepted rostrum on these occasions, and therefore the sacred right of open-air speaking need not be interfered with by this plan, provided the police can keep the people from trampling on the parterres.

I feel pretty well assured that such a treatment of the square would be preferred by most people to the present flagged desert with its very poor fountains,



Suggestion for laying out Trafalgar-square with more direct connexion with the National Gallery.

A. Fountains, placed axial with the porticos B in front of National Gallery.
C. Grass.
D. Parterres of flowers or shrubs.
E. Monuments, placed axial with the Nelson Monument.

and that it would make a far better foreground to the National Gallery.

It is assumed, of course, that the new fountains would be real works of art, designed by some eminent sculptor and architect; the collaboration of the two would be necessary.

There is nothing in any of the above suggestions that is impossible, or even difficult. It is only a question of money.

NOTES.

Architectural Association. We hope all young architects will read with attention the paper read by Mr. Dunn last week at the Architectural Association, which we consider to be, both in its substance and in its literary form and expression, one of the most remarkable papers that have been read at the Association. We may particularly direct attention to Mr. Dunn's remarks on the importance of scientific knowledge for the architect—something, as he says, beyond mere "rudiments." Such knowledge will not, it is true, make a man an artist in architecture, but it will give him a fuller and more certain grasp over an art which, unlike other fine arts, is founded on and conditioned by practical necessities, and will give him a much stronger position in his relations with contractors and workmen. The whole paper shows an unusual combination of practical sense with artistic insight and power of literary expression.

The Widening of Fleet-street. The Report of the Public Health Department of the Corporation of the City on the widening of Fleet-street, accompanied by a plan of the readjustment of the street line, is now awaiting the decision of the London County Council, who have been asked to contribute half of the sum of 500,000*l.* necessary for the most important portion of the scheme. This consists in the rebuilding and setting back of the line of street on the south side, from Salisbury Court westward to Hare-place, continuing the street line already started at the east end of Fleet-street, from Ludgate-circus to Salisbury-court; and also of two or three separate premises further west on the same side of the street. This portion of the improvement the Corporation think it would be desirable to carry out at once, provided the London County Council consent, as above mentioned, to bear half the cost. Some minor alterations of frontage, which will only affect the width of the footway, may be allowed to stand over. It is to be hoped that this proposal to carry out the widening at once may be accepted by the County Council; the improvement is so greatly needed that it should not be left to be carried out piecemeal with a probably indefinite delay.

Electric Heating. In connexion with the discussion on Mr. Cooper's paper on "Electric Tariffs" recently read to the Institution of Electrical Engineers, Mr. Wilkinson, the Engineer to the Marylebone Vestry, has given some particulars as to the growth of the heating load in Marylebone. At the outset he found considerable difficulty in overcoming the prejudices of consumers. This was done by lending out radiators free of charge for a few days, and this year of the many lent out not one has been returned. There are now over 600 radiators connected with the supply mains, and the rate at which they are being connected is rapidly increasing. Each radiator has a special small meter to measure the power consumed, and this is charged for at a maximum rate of 2d. per unit. The readings of the small radiator meters are subtracted from the reading of the main meter in order to get the lighting meter bill. In some cases, however, the wires are not of sufficient capacity to carry the current required for the radiator, and in these cases special wiring circuits have to be used, the expense of which is generally prohibitive. Mr. Wilkinson has met with little success in trying to popularise electric ovens and heating utensils. He lends out cooking apparatus free on trial, but in nearly every case it has been adversely criticised by the cooks. The working cost of the electric oven is practically the same as that of the gas oven, and electric cooking is if anything cheaper and more efficient. There exists amongst many servants a strong prejudice against electric cooking, and Mr. Wilkinson says that the average consumer generally confesses to entire ignorance of the very elements of the subject. He considers, therefore, that a great deal of educational work must first be done before good progress can be made.

The Settlement of Buildings. It is well known that buildings erected on compressible soil are certain to settle, but comparatively little definite information is available as to the probable duration and ultimate extent of the downward movement. In places like Chicago the settlement of tall buildings is very pronounced, in spite of widespread grillage footings. Two methods of procedure are open to adoption under such conditions. One is to enlarge the foundations sufficiently to obviate perceptible compression of the strata and the other is to permit the building to go on subsiding until the upward reaction of the strata is equal to the downward action of the superimposed load. In the case of the magistrates' courts, British Guiana, comprising two buildings constructed in 1890, it was decided by the Chief of the Public Works Department that the structures should be allowed to settle under constant observation, as an alternative to enlarging the footings at a cost of several hundred pounds. The results ascertained are recorded in a paper communicated to the Institution of Civil Engineers by Mr. Leonard P. Hodge. The load imposed on the soil by the buildings is 10·66 cwt. per square foot. Settlement to the extent of ½ in. was noticed six months after completion of the footings, and continued in both blocks until in March, 1902, the total average subsidence was 1·5934 ft. After that date the buildings remained practically at the same level, as the total average fall in December, 1903, was only 1·5949 ft. The paper is illustrated by diagrams showing the progress of the settlement from year to year, and although the strata in British Guiana are characterised by local peculiarities the data presented by Mr. Hodge should be found of service for general guidance.

Simplified Computations for Reinforced Concrete Beams. In a paper read to the Manchester University Engineering Society, Mr. Twelvetrees pointed out that the first essential of simplification in a general sense was the adoption of standard notation by all writers on the subject of reinforced concrete design. The view is one already adopted in a recent Student's Column series, and we are glad to hear that the question will probably be taken up by the Concrete Institute. Among other methods of simplifying calculations the author mentioned an instrument he had recently devised for the purpose of ascertaining by direct readings the values of x (the proportionate depth of the neutral axis), ρ (the proportionate area of reinforcement), and other factors—the values in question being those corresponding with any given stresses in the concrete and the steel, and with any ratio of the co-efficients of elasticity of the same materials. From the description given by the author, the instrument appears to be based upon the form of a stress diagram. Scales at the top and bottom represent stresses in the concrete and the steel respectively, and the values of x and other dependent factors are read on vertical scales by the aid of a sliding index after two pointers have been set to the given compressive and tensile stresses. Or, alternatively, either stress can be read after the sliding index and one pointer have been set to given values. Providing this instrument were made so as to cover the design of all varieties of reinforced concrete beams it would be of very material assistance to those having frequent occasion for calculations of the kind.

Overloaded Goods Trains. Railway travellers cannot fail to have noticed that, with the heavier types of engines which are now employed, goods trains are being run with quite twice as many trucks as formerly. This practice is undoubtedly economical, but that it is not unattended with danger is evidenced by an alarming accident which occurred on the Great Central Railway on Monday last. A train consisting of no fewer than seventy-nine loaded trucks actually parted twice within a few miles, the runaway portions eventually colliding near Gainsborough, and a number of trucks being completely wrecked. The strain on the couplings of such tremendously long trains is, of course, enormous; and this incident would seem to indicate that it constitutes a grave peril. When part of a train has broken loose and is running away uncontrolled, as in this case, all other traffic on that part of the line is in imminent danger; and, while it is a matter for congratulation that there was no loss of life or limb in the Gainsborough smash, it should also be regarded as a warning for the future—or, it might be added, as calling for the attention of the Board of Trade.

The Influence of Track upon Vehicles. All who travel in railway and tramway carriages should be prepared to agree with the opinion that "the continual

vibration and oscillation of the carriages is a perpetual discomfort and torment which is absolutely unnecessary, and a positive disgrace to railway engineering science." This extract is from a paper read last week by Mr. J. S. Warner to the Civil and Mechanical Engineers' Society. The paper is devoted mainly to the explanation of diagrams illustrating the various lines of movement known as "Warner's lines," and intended as the basis of methods for testing and improving the behaviour of vehicles running upon tracks. In the discussion, however, the author was induced to furnish particulars of his remedy for existing defects. Briefly indicated, it consists of improvements in bogie construction, making the vehicle far more independent than usual of the lateral impulsion communicated by irregularities of the track. From the remarks made by some speakers in the discussion we gather that the principle has been adopted with a fair measure of success. One thing is certain, namely, that any improvement to be effected must be in vehicles themselves, as railway and tramway tracks have already reached the limits of perfection permitted by considerations of practicability and economy.

Underground Building.

IT appears that having reached the limit in high buildings, American architects and clients are proposing to try what more can be done in the way of commercially utilising to the utmost an area of building land, by burrowing into the earth. An account comes from New York of a projected building which, in addition to having thirty-eight stories above ground, is to have six stories underground, which it is promised will be as healthy and agreeable to live and work in, in regard to ventilation and light, as any other offices lighted by artificial light. Thus history repeats itself, and in the last developments of civilisation we come round again to the methods of the cave-dwellers.

THE ARCHITECTURAL ASSOCIATION.

AN ordinary general meeting of the Architectural Association was held on Friday evening last week at No. 18, Tufton-street, Westminster, S.W., Sir A. Brumwell Thomas, Vice-President, in the chair, in the absence of the President, Mr. Walter Cave.

The minutes having been read and confirmed,

The following gentlemen were elected as members, *i.e.*, Messrs. A. E. Maxwell, C. Rowntree, and A. C. Harbottle.

Mr. Maurice Webb, Hon. Secretary, then made the following announcements:—

A joint-meeting of the Debating Society with the Junior Art Workers' Guild, to be held at Clifford's-inn, Fleet-street, E.C., on December 17, at 8 p.m. Papers on "The Interior Decoration of Public Buildings."

A meeting of the Camera and Sketching Club on December 17. Paper by Mr. H. W. Brittan on "Inigo Jones and Wren," at 8 p.m.

Early Studies and Future Practice.

Mr. William Dunn then read the following paper on "Early Studies and Future Practice":—

"When I look round on an assembly of students such as this I recall the saying of architects and of poets, that they are born and not made. Now I wonder were or are you all born architects? Some of you no doubt are; some may have been drafted into architecture by a combination of circumstances of which your special calling was but one. Fond parents observed a remarkable talent for drawing which had escaped other people; or there was a friend who knew an architect at the time when the problem of what to do with our boys was a pressing one; or your fathers proposed it and you cheerfully acquiesced as being not more objectionable than other ways of making a living, which a hard fate had imposed on you. Whether you feel yourselves born architects, or are in the process of such making as is possible, I assume that you are determined in the first case to justify your faith by your works; and in the second by your works also to justify enrolment in a noble profession. I may safely assume that, though not all earnest students are members of this Association, none are members who are not earnest students.

To the idler—to the man who is passing through his articles, with no other thought of his work than is given during office hours, or who as an assistant daily dismisses architecture from his thoughts at 5.30 p.m.—I have nothing to say. An American professor of engineering remarked the other day that the only men wanted at his college were the men who would get on without a college education; so unless you have such a desire to become good men, unless you have such incentives within your own souls that you can yourselves overcome obstacles, not all the classes of the Association, not all the courses of the Universities, not all the time you spend in the best offices in England, will do you any good. Your value as architects, your value as men, depends on *your own* power to remove the lions from your path. Who would expect in a game of tennis that all the balls come neatly to his racket? Who would, in the language of youth, "chuck it" because the balls were difficult to take and he had to work hard for success?

So in the great game of life; in the great Olympic competitions in which we are, whether we like it or not, entered as the champions of our country. Let us not look to our professors, to our teachers, to our seniors to make our way smooth and our paths paths of peace, and back out or throw it up when we find that there are obstacles to be overcome.

Let us recognise that it *is* an obstacle race, this race of life; that its value lies in being an obstacle race and joyfully enter for it. We will be defeated, but we will be amongst the runners.

The Value of Tradition.

You have one and all found by this time how ready your seniors are with advice on all sorts of subjects, but what you may not have realised is how those who have passed through the mill are genuinely wishful to help you on if such a thing is possible; sincerely desirous that you should avoid the mistakes they made, and so be better men and better architects than themselves. For how did the great architecture of Greece become possible? How came we to have Beauvais or Westminster, but by the passing on of the experience and acquirements of one generation to another? No great work of architecture, or indeed of literature, of invention, or anything else ever came complete and fresh from the brain of one man; even our greatest discoveries have grown from the careful preparation of the ground or the sowing of the seeds by earlier workers for other men to reap, or been built up on foundations laid by others than those who laid the topmost stones. After the battle of the styles in mid-Victorian times I believe there were hopes of a new style of architecture being introduced by one or by a small band of devoted workers—a style free from all trace of what had been done, neither Gothic nor Classic, but one casting off the trammels of tradition and greatly daring to be free. Such hopes are doomed to disappointment, since we can no more readily shake ourselves free of our architectural language than we can of our mother tongue. There is, however, this good about these hopes and efforts: they show signs of life. The exercise of kicking against the pricks shows a fine and hopeful vitality on the part of the kicker.

I have little sympathy with the new art which claims our attention chiefly because we see in it stone or wood wrought into weird forms never before attempted, or perhaps long since attempted and dropped. Architecture is too great to change, like ladies' fashions, and one asks, with a modern poet, is it—

Fall'n to a thing of mode that must each year
Supplant her derelict self of yesteryear?
Or do the mighty voices of old days
At last so tedious grow that one whose lips
Inherit some far echo of their tones—
How far, how faint, none better know than he
Who hath been nourished on their utterance—can
But irk the ear of such as care no more
The accent of dead greatness to recall?
If, with an ape's ambition, I rehearse
Their gestures, trick me in their stolen robes,
The sorry mime of their nobility,
Dishonouring whom I vainly emulate,
The poor imposture soon shall shrink revealed
In the ill-grace with which their gems bestar
An abject brow; but if I be indeed
Their true descendant, as the veriest hind
May yet be sprung of kings, their lineaments
Will out, the signature of ancestry
Leap unobscured, and somewhat of themselves
In me, their lowly scion, live once more.
With grateful, not vainglorious joy, I dreamed
It did so live; and ev'n such pride was mine,
As is next neighbour to humility.
For he that claims high lineage yet may feel
How thinned in the transmission is become
The ancient blood he boasts; how slight he stands
In the great shade of his majestic sires."*

Study of Old Buildings.

I do not think I need urge you to study old buildings; the young architect takes to that as naturally as a duck to water. But in your study do not waste too much time in making sketches and views. Rather measure and plot in the field what you measure; by that means you come to learn scale, one of the chief, as it is one of the most subtle, factors in our success. You will learn the relation between the scale drawing, by which we must express ourselves, and the actual building. Do not be afraid of submerging your own individuality; modern architecture can never slavishly copy. A house suitable for the altered ways of our times cannot have the simplicity of plan and arrangement of an Elizabethan house. It is not worse because more complex. Evolution in thought, as in life and physical structure, always tends to greater complexity, and the loss in simplicity is the necessary accompaniment of the higher life. Your buildings then are inherently different; but in the things which have to please the eye only you will find that men's affections go out to all that their fathers have loved; that the ways of using material which commended themselves to your forebears were arrived at by long trial and effort, and based on sound reason, and can only be improved on by patient and slow advance—never *per saltem*.

All this is but to remind you that, though you must rely on your own initiative and helpfulness, you will not raise your building very far unless you build on what has been done before.

Useful Knowledge.

Our profession is so wide-reaching and so multifarious in its ramifications that there are few branches of useful knowledge which you won't find use for. *Useful* knowledge, for there is knowledge—such as, say, the records of cricket and last season's averages—which you would scarcely expect to find helpful. But whether you study water-colour drawing or drainage, modelling or mathematics, surveying or sanitation, or even read law cases, or become acquainted with machinery or gardening, your future work will find use for such learning.

Scientific men tell us that the work or

* William Watson.

energy [which] we put into a machine is divided into two parts—useful work and lost work; political economists also speak of work as separated into two divisions, productive and unproductive.

The scientists value a machine according to the smallness of the lost work in proportion to the useful. Economists teach us that we get richer by productive and poorer by unproductive work. So, like wise men, let us see that our work is useful work as far as possible; we want our studies to be useful and productive.

Now the special knowledge which you will require in life varies at the different stages of your career. As pupils or as junior assistants you will not be entrusted with any great schemes to either initiate or carry out. Your ability to make in the first place neat and accurate drawings, and later intelligently, as well as clearly and accurately, to draw to instructions, is what will be first called for. When you can do this your brain and hand have alike had an excellent training. For all such drawing is an exercise in pure logic—a rational development from premises of the argument and a tracing out of the consequences which follow.

I would have you never take your section through that part of the building which shows least, but through that part which shows most; make sections and elevations of every part upon which there is the least uncertainty; leave nothing to be settled by the builder, and if you do not know how to construct this or that part find out from your seniors or from the builder or the clerk of works, or the foreman or your books, how it should be done and show it on the drawing. You may at first err by putting in unnecessary detail and make mistakes which will give you trouble because you have not judged rightly, but these errors will correct themselves.

When you have got into the habit of striving to make each drawing as perfect as if it were for exhibition at the Academy your hand will have acquired a craftsmanship which will stay with you, and your brain a power of clear foresight and understanding which will be invaluable through life.

The knowledge which is required for each of us at different stages in our career is how to do the work we may be entrusted with at that particular stage well, and with just a little more skill and a little more knowledge than our fellows have. No one expects a young man to be an Admirable Crichton nowadays; if he is able to do a little more than the others his advancement is sure. Remember, I would not have you look on advancement in life as an object in itself; increased power for good work—yes, the race and not the rewards are what we run for. I have often thought with pride that the architects in days gone by seemed careless as Shakespeare himself of whether this or that great work were accredited to them. It may truly be said of them that—

> Heedless of name or fame they wrought, and left the rest to God;
> And though their names no poet wove in deathless song or story,
> Their records are inscribed above, their wreaths are wreaths of Glory.

All you can learn of the why and wherefore of things by that insatiable curiosity which is the prime mover in scientific advancement will become serviceable to you either directly or indirectly.

Need of Scientific Knowledge.

I am amazed by the opinion of the Board of Architectural Education, which I find in the Institute calendar, that while the rudiments of methematics and applied science should be taught to architectural students no more than is necessary should be given.

The statement is wanting in clearness, as it leaves us in doubt as to what is necessary, but it certainly tends to discourage even the learning of the rudiments of these subjects.

What differentiates our practical knowledge from that of the contractor if it is not in the application of theory? However much we may advocate the learning of a craft, or actual handiwork at the bench or on the bank, we cannot hope to have that intimate knowledge of the actual processes which the workman's years of training have given him. We cannot equal a good house painter in the understanding of the workmanlike quality of his work; we cannot rival the bricklayer or the mason in a knowledge of what constitutes good mortar, save by the application of that science of which we are told we require but the rudiments. I say emphatically that we require much more than the rudiments if we are to be really architects. The builder has an accumulated store of experience to tell him whether this construction is safe or that is unsafe; but with a good knowledge of mathematics and applied science the architect can transcend experience in a large degree and proceed to combinations beyond experience with confidence and safety.

I have no scruples in asking advice from builder, foreman, or clerk of works as to practical processes; these men must know more than I do in their own lines. But I must be capable of dealing with the larger problems of design and construction. I must know not only the forces at work to overturn my retaining walls, but be able to apply science to the determination of the necessary resistances to be supplied by the walls; I must know the laws of statics and how to find the forces at work in my roofs, and the dimensions necessary to safely support these forces; I should know so much about hydraulics that, when a case occurs beyond the plumber's experience, I could find a solution or determine the conditions, even if there were no examples before us. As the years go on more and more will be expected of architects. When I see some of the drawings made by our architectural fathers and grandfathers thirty, forty, or fifty years ago I am astonished at the simple life they led; drains were shown by masterly sweeps in blue lines, whose curves were untrammelled by the sanitary officer's claims for manholes, fresh-air inlets, or vent pipes; there were fewer complications in the planning or in the requirements of the owner, and not so much taken out of the sites. There were no electric light engines, and such heating and ventilating as existed were of the simplest type. I think as I look at their plans that the architects of fifty years ago had an idyllic existence. The young men of the present day have reason to be proud of the advance made, as shown in the different character of the drawings. I feel this every time I go to the exhibition of the students' work at the Institute. The work to be seen there shows the change in the position and duties of the architect nowadays. Some few of the students of older date made drawings of old buildings and designs for new ones, which, in their way, have not been excelled, but the general standard was never so high, and that though the problems we have to face are so much more complicated and difficult. Not all, however, for I have been pained indeed to see some of the work of the men who came up for examination after four or six years' work, showing no power of even drawing clearly the simplest things, no knowledge of the most elementary facts.

I very much fear they have been misled by such advice as I have mentioned, to acquire only the rudiments of mathematics and applied science.

I say emphatically you will never be architects if you are content with only so much of the rudiments of any subject as is necessary.

You must be animated by a different spirit—by the wish to follow knowledge like a sinking star, by the seeking after the ideal in your knowledge and power. Do not be led away by the desire of doing what one likes. Work consists at first in doing what we don't much like, though afterwards we learn to like what we do, in our work. Do not specialise too much at first, and do not divide all architects into business or practical men and artists. If your natural bent is towards one side, rather force yourself to work a little more at the other.

Designing.

When you have learned to draw clearly other men's ideas—you want ideas of your own to draw—you begin to design. I suppose most of you have arrived at that stage when you enter either for students' competitions or for the small public competitions for actual buildings. These first flutterings of the young architect are necessary preliminary trials before he is trusted to those flights of fancy which we see in brick and stone around us. It is when we are actually entrusted with a building that our eyes are opened to what an architect's work really is. It is then that you find your foreign sketch-book is not the only reference-book you want; it is then that all the little things you have *not* studied become so insistent. You start your first work, and find how ignorant of the building regulations you are; the builder puzzles you by asking for instructions how to cure the damp in the cellar, and puts the responsibility on to you, which seems unfair, as he may be so much your senior and so much more experienced; your client complains of the hot-water supply and asks you to find the remedy, when you are not very clear about the difference between the cylinder and the high tank; and in a thousand ways you wish you had learnt, or been taught, many things—things very different from features and ornaments.

Now, when you have arrived at the stage of starting practice you will find that practical knowledge seems much more important to your happiness and welfare than all your artistic powers. Your powers of design are certainly important, as enabling you to scheme out your plans for varying requirements and in cultivating that invention for which there is constant scope in your work. It is rather a sad awakening to find how little value is attached to all those little charms of design which for most of us constitute our chief study in early days. It is rather paradoxical that that which makes us architects is not so important as the accessories only.

Practical Training.

One may grieve to see the blatant and vulgar work of successful men, and wonder how the world can confer the title of architect on them, but you will find it withheld from you unless you study drains and hot water and how to make a house dry. I believe that a thorough knowledge of the principles and practice of sanitary science could be acquired by any smart junior who could draw, in about three months' study, in making drawings of drainage schemes and plumbing details. There is nothing very abstruse or difficult in the subject until we come to the higher branches, such as sewage disposal on a great scale, and a knowledge sufficient for the smaller problems is simply invaluable to us.

With hot-water supply and hot-water heating it is the same, and I suggest to those who have not yet done so that they should take a set of plans for a moderate-sized house, say, and make drawings to one-eighth scale, showing the position of the boiler and the runs of the pipes for both supply and heating, adding to it sketches of the boiler and main connexions, then submit such drawings to any hot-water engineer of your acquaintance and discuss the proposals in detail. You will, in a few such lessons, learn enough about it to enable you to form an opinion on, perhaps enable you to discover defects in, the schemes submitted to you.

All manner of construction should be the object of your attention. The right use of the material is essential to every artist, but I do not limit this to debating on the proper design of plaster mouldings or the difference in the planning of ornament in cast metal or in wrought. I say that in your beams and your roof trusses there is a right and a wrong use of the material, which takes a great deal

of thinking to discover. A great mind like Wren's or like Da Vinci's or like Brunelleschi's has a fine constructive instinct, but in every case this must be sedulously cultivated.

Nowadays the way of the constructor is no longer hard, but made smooth for him, though, indeed, there are yet as many fields for him to conquer; the ordinary paths have been levelled and made straight by precept and example.

I want specially to remind you that in thus urging on you the importance of what is called practical knowledge I do not wish you to become only what is called *practical men*. Unless you have that love of all things good and beautiful—that glorious discontent with the gross, the ugly, and the mean, which impels you in your day and generation to make them better, to make the wilderness blossom like the rose, and make the hut of the labourer or the mansion of the rich man fit settings for noble lives—unless you cannot help but throw yourself heart and soul into architecture, as the art of making kirk, or mill, or mansion, or all that man builds for use or pleasure, and all the accessories in gardens, furniture, hangings, no amount of practical knowledge will avail you.

It is because this practical knowledge enables us to build our cottage, to lay out our garden, to make our English houses what they are becoming—patterns to all the world as the right environment of all sweet life, pure and honest and of good report; it is because that without the power to do in this our art of architecture the power to think only is of little use. I know that to many of you these studies which you follow in poring over dry books are distasteful by comparison with your sketching in abbey or cloister.

One of my own dearest memories takes me back to the occasion when a few days before Christmas I was in a large English parish church of the XIVth century. I was making a drawing of a richly-decorated chantry, and while I drew there came through the long aisles the sound of the Christmas music which was being rehearsed with wind and string instruments, and never had the glamour of the season so appealed to me as then, when I felt that I too had my share in the arts which glorify and idealise this life of ours, and that, humble though one's station in the ranks of the great brotherhood of those who have made the world beautiful by architecture or music, or painting, sculpture, or poetry, we may still be numbered in their noble company.

No such fine raptures follow on your reading So-and-So's book on plumbing, or someone else's on stresses and strains. But the discipline to which you subject yourself in steadily pursuing these studies will be of inestimable value later.

A great ethical teacher urges us to do every now and again something which we acknowledge to be good but don't like doing. It braces one up, like a cold bath on a frosty morning, and keeps us from becoming enervated by always doing as we like. Indeed, of more value than anything else we learn in our early studies is the power of applying ourselves to any problem and to the distasteful and uninteresting side of it.

Patience Against Petty Vexations.

Remember that the soldier passes but little of his life in the actual clash of opposing squadrons, the love of which perhaps made him a soldier. So a large part of your life must be passed in the patient drudgery of your profession, in working out schemes for petty alterations entailing great labour, but giving little scope for which you rightly call real architecture. But in it all there is a right and a wrong way to do it, and when you tackle an uninteresting problem in the right spirit you strengthen your intellectual muscles for some contest more worthy of your powers, and keep yourself in training for the time when you have to battle with some difficulty calling forth them all. For, remember, everything seems arrayed against the architect. The inertia of men and things which is so appalling must be overcome; you have to go out to do battle with your human material, which is as hard and stubborn as your brick and stone. Your county councils and local authorities rise up against you, with their universal objection to everything that makes for beauty, and the ever-present want of means renders your task more thankless than that given to the Israelites set to make bricks without straw, and hampers you at every turn. When you feel that oak is the right material your purse keeps you to deal; or when you want for grouping and composition a high-tiled roof, a certain noble lavishness of brick and mortar, the quantity surveyor reminds you of the increasing cube; when you want a cornice of 5 ft. projection to make that deep shadow on your street front, the charm of which you had brought from Florence, the county council, treating you like a child, says you can't have it, and that's enough.

But it is in this kicking against the pricks that the value of our early studies as well as our late practice comes in. The spirit to begin it and to keep it up must come from ourselves; no good advice, no clear logic of reason, are of much avail if we are not to that degree born architects. The generous enthusiasm of others may awake or may animate it, but if the spirit is not in us, if we are numbered with those who expect that knowledge and skill will come with the passing hours though our real interests are in other pleasures; if we can only learn when we are as it were fed with knowledge as through a spoon; if want of skill or power is always the result of the fault of someone else; if, in fact, we think of our rights of pleasure more than our duties of work, then ours is indeed a parlous case.

What the Client Expects.

Gentlemen, there is a relation between our early studies and future practice which I would suggest for your consideration. Think for a moment of what your wishes would be if, instead of being the architect, you were the employer; would you not, first of all, knowing that you were to entrust the spending of a large sum of money to some one whom you could not properly control, be anxious to select a man of good sound ordinary common sense, and to avoid that type of artist who is so much a child of nature that he cannot be limited by pounds, shillings, and pence, as other men are? Would you not, knowing that the cost of the work was so important an element in the success of the enterprise, that its excess would mar it, be most anxious that your architect should be a man who could be trusted not to spend more than he was authorised to? Next, would you not be very desirous to have your building conveniently arranged, which means that the plan must be skilfully designed? Would you not require it to be healthy, to be so supplied with water and means of disposals of wastes as to be fit for habitation without danger? Would you not require it to be so strong and well-built that you had no fear for the future of your building? Wouldn't you want to be safe from law suits arising out of your works? Wouldn't you want it to be all so charmingly designed and so pretty that you would find an evermore delight in it?

Let your early studies be so directed to the end, that you may be able to supply these wants; that prospective employers may instinctively realise "Here is a man whom I can trust, who is in such sympathy with my own ideas that I can trust him as myself," and you will find, sooner or later, that future practice will justify them."

The Chairman, in inviting discussion, said that they had had a charming paper from Mr. Dunn, in which he advocated the virtue of the study of the practical in architecture, though he concluded his paper with a very direct reference to the necessity of preserving the spirit of what was called architecture in their work. He (the speaker) did not see why the most complete study of all that was practical should anywhere interfere with that spirit of architecture. The consideration of practical matters was a matter of the exercise of common sense, which would generally carry them through most practical difficulties that arose. Mr. Dunn was, he felt sure, a friend of the Association, although he had not previously come amongst them, and all that he had advocated that evening amounted to the curriculum of the Association schools, and added a strong criticism of the new art, which, one heard, was spreading to Siberia—long might it remain there! Skill in design was one of those points which they would want to discuss, and the necessity for consulting with practical men connected with their work—with the clerk of works, the contractor, and others. Mr. Dunn had referred to the great excellence of the Institute students' drawings, and he (the speaker) hoped that he would give the same consideration to the drawings of the Association students, for he thought Mr. Dunn would find in them the spirit of advance which would be equally pleasing to him.

Mr. Gerald C. Horsley, in proposing a vote of thanks to Mr. Dunn for his paper, said they had heard a very human and sympathetic and kindly paper, which would appeal to all workers in architecture, because, after all, every worker in architecture was a student—even those we might look upon as past-masters in the art. All were learning till the end of the chapter. There were only two sides of this question he would like to touch upon briefly. (1) How students need to learn from one another; and (2) the importance of foreign travel and study of architecture abroad after student and pupil days were over, and before starting in practice. First, then, they should always remember how much their fellow-students had to teach them. In the school and in the office they would generally find a man better than themselves. They should learn from him all they could, and try and understand what it was that made his work so distinguished. It had been said that the proper study of mankind is man. Well, a very important branch of study for young architects was—architects. They wanted to know how they did things; how they succeed in carrying through a difficult piece of work; how they dealt with their clients. The study of biography would help them in this. If they read about great architects of the past, they would learn how character and temperament had affected architecture. Take, for example, Sir Christopher Wren; in reading about him they found that he had the very quality which Mr. Dunn begged them to cultivate, viz., that of the investigator into everything—matters great and small—which go to make a good building. They would remember that when Wren went to Paris for a six months' visit at the time of the great plague in London in 1665, and when he knew a career in architecture was opening before him, he wrote home to a friend:—

"I have busied myself in surveying the most esteemed fabricks of Paris and the country round; the Louvre for a while was my daily object, where no less than a thousand hands are constantly employed in the works, some in laying mighty foundations, some in raising the stories, columns, entablements, etc., with vast stones by great and useful engines: others in carving, inlaying of marbles, plaistering, painting, gilding, etc., which altogether make a school of architecture the best probably of this day in Europe."

He plunged into the study of, and into sharing the artistic life of the city. He says in his letter:—

"Abbé Bruno keeps the curious rarities of the Duke of Orlean's library well filled with excellent intaglios, medals, books of plants, and fowls in miniature. Abbé Bourdelot keeps an academy in his house for philosophy every Monday afternoon."

After giving a list of the numerous chateaux he had surveyed, you will remember how the letter ends:—

"That I might not lose the impression of them (i.e., of the chateaux), I shall bring you almost all France on paper, which I have found by some or other ready designed to my hand in which I have spent both labour and some money. Bernini's design of the Louvre

I would have given my skin for; but the old reserved Italian gave me but a few minutes' view. I had only time to copy it in my fancy and memory, and shall be able by discourse and a crayon to give you a tolerable account of it."

To use a modern day word, Wren was "keen"; he strove for perfection—as a young man in his mathematical calculations and in the making of his astronomical instruments; later in life in his planning, his design, and the carrying out of all the details of his buildings. There was one thing they must always remember in their studies for future practice, and which must colour all their life, and that was that we were striving to be one of a profession of artists. It was no use acquiring useful knowledge solely as useful knowledge; they must learn it with an artist's spirit. Every architect was heir of a great inheritance, the greatest of the arts. They must try to do nothing, or consent to anything which would weaken architecture. They must try each in their way to add to it as an art. They would have their disappointments of course, many of them, but they must regard it as the highest art all the time. Finally, he would repeat, as a study for future practice it was most necessary when apprenticeship and student days were over to travel abroad and study (as Wren did). Parents sometimes said, "It is too expensive." But, indeed, it was not. It was meat and drink to the young architect. But scampering about the Continent was no good. A residence of some weeks, say, in Athens and then in Rome, for study should be aimed for, with visits of several days to places of lesser importance. They wanted time in each town for study, for drawing and measuring.

Mr. H. P. G. Maule, who seconded the vote of thanks, said they had heard an eminently sane paper, in which not only was common sense preached, but the necessity of having an ideal at the same time. He ventured to think that was what they tried to do in the Association; they tried to show and teach that nothing great could be done without an ideal—without keeping a high ideal in front of them. But the foundation of the training must be a common-sense one—almost a commonplace one. If Mr. Dunn would visit their schools and see what they were doing he would know that many of the precepts which he advocated in his paper were in practice. One thing they were always saying in the schools was that students must stand on their own feet, and on the feet of no one else—they must learn for themselves. They showed students in the schools what they must learn; the learning they had to do themselves, for that was the only way to get knowledge worth having. Mr. Dunn laid stress on the study of old buildings, and the importance of not wasting a lot of time in making only sketches and views. In the Association school a man was always advised to make his studies of old buildings in plan, section, and elevation; then he made a perspective sketch, and finally he wrote a description and made notes upon the materials, and so on. It was not merely sketching a building that was useful, but the measuring of it up first in order to get the scale into their head. As to such matters as the rudiments of mathematics and applied science, that was a very difficult question; and he should like to talk to Mr. Dunn as to how they could improve the scientific side of architectural training. The difficulty was that the average student came to them with his school training, and often with very little mathematical knowledge; and when the subjects of stresses and strains were dealt with they found that the student had great difficulty in applying what little mathematical knowledge he had. It was difficult to know how they could push the scientific side much further unless there was more training in mathematics, though he hoped they would be able to advance on the scientific side of the training more than they had done. The difficulty was that when they dealt with advanced subjects the men had not sufficient knowledge to keep up. It was very difficult, too, to get architects who would teach who had this necessary knowledge—or men who would teach and had this knowledge and an architectural knowledge as well, and that was a serious difficulty. They required that there should be more thorough scientific teaching, though he might say that they taught the rudiments in the Association schools; but, generally speaking, there was room for improvement. As to practical training, to a great extent that could be met by a careful organisation of the series of visits to buildings in course of erection. There they had organised very thoroughly indeed, and the student who went through the whole of the two years' training visited buildings in actual course of erection, and those buildings were selected to show things being done as they should be done. The result of notes taken on the visits were embodied on drawings, so that the students were encouraged to cultivate the powers of observation. Everything was done to train those powers and to get information from works in progress. So, too, what Mr. Horsley said about Wren and his visit to Paris and the Louvre, that was acted on in a small way in the Association with students who visited buildings being erected, workshops, builders' yards, brickworks, etc. He intended to act on Mr. Dunn's suggestion as to setting a hot water scheme as a subject for the evening school, just to see how it would work out. It was a curious fact that the Association students were really more interested in the severely practical than in the theoretical or historical. They took, as a rule, more to construction and to materials than to the drawing of famous historical buildings, or anything in the nature of theory. Directly the practical was touched on the students' interests were keener, and there ought to be no reason why, with the system of training throughout the country, the more severely scientific training should not be fostered equally with the idealistic. He was greatly cheered by Mr. Dunn's paper, for it was a great help to feel that so many of his ideas were being carried out in the Association schools; and if they could get him to visit the schools and help them a little more they would be specially indebted to him.

Mr. Walter Millard supported the vote of thanks, and said that the paper was an invaluable one. It would go far and its effect would last. The similes of the author were very striking; that of running an obstacle race, for instance; it was exactly what we were doing. As to the study of old work, that was traditional; it had come down to us, and it had always been done for the last century or so, at any rate. It was his fate to have to look at some of these studies from old work, and he was sorry to say they did not always represent that work accurately. In professed studies of old work more often than not there were misdescriptions in delineation, errors in statement of fact, made by men absolutely incapable of any untruth by word of mouth. They not only drew that which was untrue, but contradicted themselves on their own sheet of paper—plans and sections, etc., not agreeing. It was often possible to take a man's sheet of paper and prove to him that he had drawn falsely; and he was guilty of this untruth because he had not been taught aright, either to draw or to observe, and had not been made to go about his work in the right way. We seldom realised how rarely we got a measured drawing of old work which did not contain representations of things which were not there, or things shown differently from their execution. They had only to take two or three measured drawings of the same piece of old work to find disagreement between them, and if they took a photograph of the same thing they might find that all were wrong; and this was because some students were content, or thought it sufficient, to put lines on a piece of paper without exact meaning. The lines in an old building were not straight lines in ninety cases out of 100, and faces that seemed to be at right angles were often not so. They might say that it was accident that made old buildings look as they did, but it was not always the case; and the faithful study of old work was far from common. Mention had been made of travelling abroad. It was all right to do that, but there were buildings in this country also for an architect to study, and he said that as one who had been abroad; a man need not be discouraged because his parents found it too expensive to send him abroad: the next best thing to going abroad was to stay at home and to master thoroughly one piece of building-work. If a student lived away in the country let him master the structure of the church of his parish, or the cathedral of his diocese—going beyond mere drawing, and getting to know the growth of the building and how it came into the shape it holds. If he lived in London he could make a study of our abbey church; he could not measure it all, but he might study it without measuring it. Having grasped one building, and having gone through the process of getting all the knowledge he could of it, he had gained something he could use, and had learnt a lesson for himself in the method of understanding any building. As Mr. Dunn said, the profession of architecture was wide-reaching, and it was difficult to say what it did not touch upon. It came in contact with all other professions they could safely say; they could study drainage, modelling, mathematics, surveying, gardening, etc., and they might be gifted in a dozen ways, but as architects they had opportunity for using any and all of those gifts with which they were blessed. They could acquire special knowledge at different stages, it was true, and when they had learnt the art of learning for themselves they would have learnt how to acquire the special knowledge they needed for special occasions. Mr. Dunn spoke of making their drawings as perfect as though for exhibition at the Royal Academy. He (the speaker) would not have said that; he would have said for exhibition on the walls of the Association, or the walls of the Institute. The thing was to look at, to study, and to think of a building as architects and not as amateurs, and to talk about it, if they were driven to talk about it to amateurs, as if it was their privilege to know something more about it than others could. That was the spirit in which to regard their work, to remember that they were architects, and that they must do more than snapshot, which other people, who were not architects, could do as well. A young architect, before he got work to do, might ask himself, Why am I to be employed? What would he be employed for? Well, there was charity and all that, and relationship; but putting aside that, who would employ a man if he did not expect to get some advantage out of it? Let a young man, starting practice for himself, ask himself what advantage he could offer, and whether he could do the work better than someone else. The answering of that question would keep him employed for some time. From what Mr. Dunn had said, and judging from what they were doing in the Association, it looked as though there was a ray of hope for the future. Slowly, but surely, the inefficient would have to make way for the efficient, and the time was coming when there would be no room for the incompetent.

Mr. W. Curtis Green, in supporting the vote of thanks, said he was glad to think that the paper would be read by a great many more people than those present that evening, and he could not help thinking that the Association was extremely fortunate in having had three papers recently bearing on their work. One, by Mr. Horsley, on students' work, more in connexion with design; another, by Professor Lethaby, on how students' work was to be made not only productive but reproductive; and the third, by Mr. Dunn. It was not only quite young students who needed such advice as they had

heard; men who had just begun, or were about to begin, practice needed it too, for they wanted to know what to do next and how to spend their time working for architecture, and not alone for themselves. One thing not mentioned that evening which was of importance was as to students not going into practice too soon. Sometimes a man could not very well help himself; but, generally, it should be understood that it was not a good thing for a man to begin practice very early in his career. They should work, rather, for men whose work they admired and whom they believed in, and should put off practising for themselves so long as they worked with a definite aim and object. As to studying old buildings, and how important it was to study one old building thoroughly rather than to rush about and make a number of sketches, he believed in that, and that it was better for a student to spend six months, say, on one building, rather than the same time in half-a-dozen places sketching as many buildings. He might say that he had spent four months on one building, and he believed that study in that way gave one an architectural sense, and that they learnt something they could not learn in any other way; it taught them the ends of draughtsmanship and what they wanted to aim at; it told them something about draughtsmanship which they could not learn by rushing about from one place to another. So many measured drawings and studies were considered in the nature of "bag"—"How many have I 'bagged' to-day or on my holiday?" That sort of thing did not teach anything. There were definite limits to draughtsmanship; it was only a means to an end—not the end in itself. One learnt to find that there was a baffling factor in regard to any great building that could not be put on paper, and they had to learn that a T-square, etc., would not reproduce those qualities unless they had the feeling for the thing; unless they had not only the elements of romance, but the elements of construction. It seemed to him that Mr. Dunn had those qualities which Professor Lethaby spoke about—he could make men not only productive but reproductive. He had seen something of Mr. Dunn's work. There was a feeling abroad that Mr. Dunn was an authority on concrete. Well, that was perfectly true, and Mr. Dunn was probably the greatest constructor in that material in London at the present time; but in addition he was full of old feeling, and he was in the highest sense a constructor from the arts' point of view—architecture as an art and not as a science—and those who had seen Mr. Dunn's work would agree in that.

Mr. Louis Ambler said he was rather inclined to agree with Mr. Maule in what he said about students being inclined to learn more readily hard material facts and matters relating to construction than the theory and history of architecture and the æsthetic value of old buildings, or even new buildings. As to students studying old buildings, he had known some who had little or no desire to do so. He remembered one who, when asked if he sketched old buildings, replied, "Certainly not; I should not like to fetter my imagination in that way, and curb my originality." That was in the days of the New Art craze, which, he was glad to say, had been rather scotched in this country, for there was now more serious study than was the case a few years ago. He was a great believer in sketching and studying all kinds of work. One heard of students who asked what was the use of their sketching and studying a cathedral, for instance, as they were not likely to get a cathedral to build. That was not the point at all. All good work, whether cathedrals, or whatever it might be, should be studied not because one expected to draw direct inspiration from it for modern building, but for the sake of learning the lessons which it had to teach in mass and proportion and beauty of detail—in fact, everything which went to make architecture. If they saw Mr. Norman Shaw's sketch-book, for instance, they would find certain examples, chiefly of French and Italian Gothic. Now, what influence had those early studies had on Mr. Shaw's work? They did not see any of those features, or details, or portions of buildings appearing in his work; but he must have been influenced by them. Where did Mr. Shaw get the ideas for the wonderful variety and charm of his designs but from study and from old examples of Gothic art? One should study all good buildings, new as well as old. And as to "the proper study of mankind being men," he agreed that there was a great deal of good to be gained by architects, certainly by students and others, studying them and their requirements from one's earliest days and making friends with them. That was a good thing to do in every way; and without talking "shop" to people, it was soon known that one was an architect, and if a man had created a favourable impression, it often led to his employment. He did not think that Mr. Millard's advice should be taken too literally as to a student not taking work because some one else could do it better. They must all have their first chance, and they must not suppose that there were not many who could do that first work better. But a client might expect to get some material advantage when he employed a young architect, such as fresh ideas and up-to-date work; and he expected, and probably received, more personal attention from his architect in the execution of the work—more visits to the work, and so on. Most practising architects had to look to their friends and acquaintances for their first start, for few architects were clever enough to get their first work by winning a competition. The work an architect did should be a recommendation. The young architect should remember that it was not enough to be an artist; he must also be a practical man, and it was ridiculous to think that architects could be divided into practical men and artistic men. An architect must be both, and no one was an architect unless he combined the two qualities. Where this was not the case a man must have a partner who would provide that quality which he himself lacked. An architect never knew what kind of work he would get, and he had to study all kinds of work and prepare himself. As Shakespeare said, "There is a tide in the affairs of men which, taken at the flood, leads on to fortune," and an architect must be prepared to take advantage of that tide; and unless they were properly equipped they would be caught by the ebb, or, at any rate, the tide would flow over them. It was most desirable that an architect should have some training in specification writing, and if no training in that was given in the Association schools it would be an advantage if it could be arranged for. He once asked an assistant if he could write a short specification. The assistant replied that he had never written one, but he would be very glad to try; which reminded one of the man who was asked if he could play the violin. His reply was that he did not know until he had tried.

The Chairman, in putting the vote of thanks, said that one of the best points in the discussion had been as to the helpfulness of students to students. That was most valuable, and that was one of the advantages of school-work: students were trained together in the exchange of views. Wren's observation that he would give his skin to have been able to see Bernini's design for the Louvre shows great keenness, and it was from remarks like that that one got an idea of the personality of a man. He gathered that what Mr. Dunn advocated was that they should store the mind with all useful knowledge in the hope that, Micawber-like, some opportunity would turn up for its use. As to the Association schools, the more they were seen by practitioners of architecture the more the work carried out there would be appreciated. It was surprising how few architects knew what was being done in the schools, and their enthusiasm would be roused if they came into contact with it, for the work that was being done was good. As to thinking twice about taking their first job, his advice was not to think twice, but to seize the opportunity with both hands.

The vote of thanks having been heartily agreed to,

Mr. Dunn briefly replied, and said he was more or less a stranger to the Association, but he hoped to take a greater interest in its work and to come amongst them.

The Chairman said the next meeting would be held on January 8, when Mr. H. D. Searles-Wood would read a paper on "Building Materials."

The meeting then terminated.

THE INCORPORATED INSTITUTE OF BRITISH DECORATORS:

TRADE AND ART.

A MEETING of this Institute was held on Tuesday evening at Painters' Hall, Little Trinity-lane, E.C., when Mr. F. Stuart Murray read a paper on "Trade and Art," Mr. J. D. Crace, President, in the chair.

The lecturer said that from pictorial or sculptural representations, or from actually existing objects, one could make up a practically unbroken record illustrating the technic arts of design from the times of the earliest pyramid builders down to the end of the XVIIIth century. Of the myriads upon myriads of things adapted by the ingenuity and artistic sense of man with infinite diversity of purpose, not one was of a poor order of artistic merit or inapt in design. This was remarkable when viewed in conjunction with another fact, *i.e.*, the almost universal lack of artistic qualities in similar productions in the last sixty years. The XIXth century had everything seemingly in its favour—an artistic tradition, unbroken for centuries; a leisured and cultivated people; great industrial wealth, and a fuller measure of social and political freedom than any previous generation. But the one change which had run counter to the flow of the tide of progress was the decadence of the technic arts. It was not, he thought, to any changes in social or economic conditions should be attributed the decadence of the arts—the evidence would seem to point the other way. It was, he believed, entirely due to the great alteration which had taken place in the ideals of life, contemporaneously with social and economic change. Every civilisation had accomplished its destiny under the stress of some paramount shaping force. Religion, the State, the race—each in turn had predominated, and in each period the arts had flourished and bequeathed a rich inheritance to their successors. With the XIXth century began a new epoch with a changed ideal, material, industrial, and productive—a beneficial influence in many ways and not necessarily hurtful to the arts; yet it had proved fatal to them.

The lecturer then compared the conditions of life and the artistic productions of two representative eras, differing widely in political and moral ideals and in their social scheme, but each dominated by a central ideal. The periods were the Roman Dominion under the first Cæsars, and the Ottoman monarchy in the time of the great early Sultans, about the middle of the XVth century. He took these periods not because of their exceptional excellence in the arts, but because they were sharply contrasted types. Wide apart as they were in laws, beliefs, etc., they were united by a common excellence in the arts of design. In the Roman world traders were mostly makers, not solely dealers. Design in the handicraft arts was part of the business of the craftsman, and the idea of designing as a function apart from making had luckily not occurred to

anybody. The unifying force of the great period of Roman rule was to be found in its conception of the State. It was a more exacting and inspiring ideal than family or race or religion.

Between these times and those of the Ottoman monarchy from 1,000 to 1,500 years had passed. The period of the early Ottoman monarchy was one of the great epochs of civilisation, the more that it represented faithfully a social order, inspired and shaped by a religious ideal. The handicraft arts flourished and formed the sole outlet for the artistic faculties of the race. It was significant of the pervading influence of their faith that the verses of the Koran, traced in the noble decorative characters of the Arab alphabet, formed one of the principal motives of design. They were magnificent upon domes and arches and walls, and were scratched upon knives and cups and keys.

The great central ideals that alone had made organised society possible in earlier ages had fulfilled their purpose; man now was born to fairly comfortable times and the world had settled down to the pursuit of wealth as an end. It was a world of business. But there was an ideal of business; he warned them not to confound with the real business, the making of things. And that ideal was, nakedly, the mere dealing in them, not the selling of the product of their own skill and labour, but the labour and skill of others. This idea of business was not to make a thing well and sell it well, but to sell anything, no matter how bad, and to sell at a good profit. To this rapid and wide development of this illegitimate spirit of dealing, this abuse of trade, should be justly attributed the downfall of design in the technic arts. The trader was, or should be, the manufacturer. The dealer had no interest in anything but the profit; he was indifferent so long as his books showed credit balances.

The lecturer then dealt with the power and usefulness of trading communities, such as the Hanse League, and the study of them showed the essential difference between trade and dealing. Directly the making of profit became the sole motive of trade, every other consideration was illogical and a hindrance. What interest had a shareholder in the artistic or durable qualities of the goods which brought the profit? They might be ugly and cheap or ugly and dear. The question was: What sells most readily and what carries the largest profit? Beauty of design, goodness and durability of material, all qualities of worthiness add appreciably to cost. The maker to-day was in the hands of the dealer, and it might be said that every class was in the hands of the dealer. The great and growing tendency was for the actual master to dissociate himself from his craft, delegating the vital processes of production to subordinates. A common experience when a manufacturing industry was in question was: grandfather, a master craftsman; father, head of a manufacturing business; son, the managing-director of a limited company, with unlimited ignorance of a manufacture declining in every quality but output. The real trader was a man of enlarged experience, of wide knowledge, even if unlettered. He developed senses so acute in the judgment of his goods that they appeared to the unpractised as marvellous. Under the economic pressure the craftsman sank lower and lower; his art became first mechanical and then ceased to exist, and the man sank to what was called a mechanic. The master spirit of dealing was the "operator," who did nothing; he simply "controls." It was said that the decline of the arts was due to stress of competition, but there was nothing specially hurtful in competition; quite the other way. The XVIth century was an age of keen competitive effort, and its artistic achievement had never been excelled. No, the distinguishing feature of the competition to-day was not the severity of the struggle, but its unscrupulousness and the meanness of the prize. Examples were plentiful of an awakening of the public conscience, and the most hopeful sign was the revival of genuine handicraft arts in workshops under strict trading conditions. There was much that was genuine in this movement, but some that was little more than affectation, some that was certainly false. State art departments had been founded for fostering and nourishing technic art, but he was convinced that the resources had been wrongly applied. It was not with the artist or the craftsman that they should begin, but with the trader, the manufacturer. The craftsman had not degraded himself; he had simply yielded to the force of certain economic laws. Give the trader the medal and renown and reward. Make it to his interest to have able craftsmen and fine design, and insist upon his having the faculties for cultivating personal taste and knowledge of the art. Take something off his income-tax if he was the holder of an art-master's certificate. That would be greatly more effective than spending over schools.

They might begin by shutting up some of the art schools and expending the money upon grants to selected manufacturers, who would undertake to keep ateliers in the workshop subject to proper regulation to secure efficient instruction. Let these ateliers compete against each other, and the employers share the medal and reward and certificate. Let these ateliers be the recognised State schools of design. Article the pupil to the State, if they liked, for a period of five to seven years. Why should they not have State apprenticeship in technic arts?

What was the value of the existing awards to an artist seeking employment? He was no more to the dealer, who did not want art, than a symbol of additional cost; and this must be so until the trader was something of an artist. As to the public, he was of opinion that the influence of the general buyer had been greatly exaggerated. The man in the street had got to buy what there was to buy and had already been provided. The course of fashion in articles of attire proved this. Fashion and style were dictated by a few autocratic designers.

A short discussion followed, in which Messrs. Sutherland, Murray Jones (Master of the Painter Stainers' Company), A. Waller, M. Warner, Stewart-Greene, and the Chairman (who spoke of the vulgar fashions in a great deal of jewellery design) took part, and votes of thanks to the lecturer and the Chairman were heartily agreed to.

Mr. Warner, speaking as a wall-paper manufacturer, said that he had endeavoured to secure the services of eminent men from the time of Owen Jones to the present day, but he had received very little encouragement, and designs by these eminent artists were not in the fashion, which must be something old and antique. Then the museums had done much to prevent the development of design, for there was everlasting copying.

LONDON TAVERNS.

A MEETING of the Auctioneers' Institute was held at No. 34, Russell-square, London, W.C., on Wednesday, when Mr. Harold Griffiths, A.R.I.B.A., F.S.I., read a most interesting paper on "London's Taverns in History and London's History in Taverns," with lantern illustrations. The chair was taken by the President, Mr. Arthur Geo. Dilley.

In the course of his remarks, the lecturer said that in olden days the tavern formed the home, the club, the business premises, and the address of the men of learning—the author, the wit, the poet, the doctor, the lawyer, the painter, and the man of quality. Dr. Johnson said, "There is no private house in which people can enjoy themselves so well as at a tavern." The tavern was also the posting-house, and many of them were marrying-houses. The Cock and the Hand and Pen, both near the old Fleet Bridge, were very famous marrying-houses. The Golden Lion, the Two Lawyers, the Wheatsheaf, the Horse-shoe, the Magpie, the King's Head, and the Swan and Hoop were some of the taverns in or near Fleet-street provided with chaplains and chapels (or private rooms) in which marriages were solemnised on every day and night of the year. At the sign of the Angel, in Bishopsgate-street, the parish clerks, who were incorporated in 1232 by Henry III., kept their hall. The old London taverns hid themselves in odd nooks and corners, secreting themselves behind shops and up alleys and courts, aiming at cosiness, quiet, and privacy. Very rich in quiet corners and by-ways is the City. We call it "London," but it is not our London—this old maze of narrow courts and queer turnings. It was around the city gates that the earlier taverns clustered, but as time went on they were spread over the city. In the year 1309 there were 354 taverns in London, and later on they became so numerous that Sir Walter Scott, writing of Whitefriars in the XVIIth century, said, "The signs of the alehouses and taverns indicated that they were equal in number to all the other houses." The wine taverns were furnished with a pole projecting from the gable of the house and supporting a sign, or bunch of leaves, at the end. The taverns of Old London were incrusted as thick with anecdotes, legends, and traditions as an old ship is with barnacles.

Mr. Griffiths then dealt with a few of the customs, laws, and other matters of interest relating to taverns. Referring to public-house signs, he said that signs and sign-boards marked the earliest attempts at advertising, and the origin of their use was lost in quite extinct ages. At first signs were sculptured on the fronts of houses; they next took the form of mural paintings, and finally they developed into independent pictures, swinging out in frames, the toys of the wind. In process of time the signs became mixed, and they ultimately lost their distinguishing characteristics, until they degenerated into absurdities, the affinity between the sign and the calling being entirely disregarded. Signs in the earlier ages were very necessary and became general, as the numbering of houses was not introduced until the middle of the XVIIIth century. In time signs became so large as to occupy the whole of the roadway and to become a nuisance and a danger to the passers-by. In 1667 an Act was passed prohibiting signs hanging across the public way, but apparently it was not put into serious operation, for in 1718 a sign fell down in Fleet-street, killing two people and injuring four. After this signs were gradually removed by "order," until by the year 1769 they had either been removed or affixed to the fronts of the houses in all principal thoroughfares, where they were allowed to remain until the rebuilding of the premises gradually did away with them altogether. The ironwork supporting the sign-boards was generally rich in design and excellent in workmanship, and though in most cases the devices that swung beneath were crude and inartistic, some of the designs that had been handed down to us might be faithfully described as exquisite, and it was not thought derogatory to the dignity of the first artists of the day to paint signs for taverns. Taverns were compelled to exhibit a sign.

The lecturer then described and illustrated a large number of old taverns, most of which had been rebuilt or altered or had ceased to exist. In Bishopsgate-street Without there were the White Hart Tavern; Sir Paul Pindar's Head (the front of the house, with its gable and bay-windows and matchless panel-work, was one of the best specimens now extant of the period, and had happily been preserved in the South Kensington Museum); Dirty Dick's; the Bull Inn (in Devonshire-street); the Four Swans (one of

the inns which had galleries all around the upper floors). In Leadenhall-street there was the Ship and Turtle (built about 1377, but about 1847 it was altered and improved), and in Fenchurch-street, the London Tavern. Other taverns described were the Magpie, in Aldgate; the Old Fountain, in the Minories; the Boar's Head, in Eastcheap; the Bear at the Bridge, at the foot of London Bridge; the Old Tabard, in the Borough High-street; the White Heart, in White Heart-yard, Borough High-street; the Swan, in Crooked-lane; the Three Cranes, just by Three Cranes-lane; the Pope's Head, in Pope's Head-alley; the King's Head, in the Poultry; the Queen's Arms (where Keats lived), at the north corner of Queen-street and Cheapside; Blossom's Inn, Blossom Inn-yard, Lawrence-lane; the Mermaid, in Bread-street; the Swan with two Necks, in Lad-lane, now called Gresham-street; the Half Moon, at the corner of Gutter-lane and Cheapside; the Bull and Mouth, upon the site where the new Savings Bank now stands; the Albion, in Aldersgate-street; the Bell, in Warwick-lane, Newgate-street; the Magpie and Stump, opposite the new Central Criminal Courts; the Saracen's Head, Snow-hill; the Castle, in Queen's Head-passage; the Queen's Arms (now called the King's Head), in Cannon-alley; the Chapter, in St. Paul's Alley; the Goose and Gridiron and the Dolphin and Crown (now the Rose and Crown), in London House-yard; the La Belle Sauvage, in La Belle Sauvage-yard; the Castle, at the west corner of Shoe-lane; the Globe, Fleet-street; the Cheshire Cheese, at the eastern corner of Wine Office-court, Fleet-street; the Griffin (now the Green Dragon), next to Pleywell-court; the Mitre, Fleet-street; the Rainbow, Fleet-street; the Cock, Fleet-street; the Cat and Fiddle, in Shire-lane, afterwards called Searle's-place, Temple Bar; the Marygold, Fleet-street; and, next door, the Devil.

The lecturer mentioned many facts of interest in regard to all of these buildings, and he was awarded a hearty vote of thanks for a most interesting lecture.

MONUMENT IN THE CHAPEL, WROTHAM PARK.

THIS is a monument erected in the private chapel at Wrotham Park, the residence of the Earl of Strafford, in memory of Lady Dorothy Cuthbert.

The subject is "St. Cecilia." The bas-relief is carved in marble by Miss E. M. Rope.

THE DURABILITY OF IRON AND STEEL PIPES.

IN the *Transactions* of the American Electrochemical Society for 1908, Mr. R. H. Gains gives an account of the relative durability of the conduits of the Rochester water supply. Two conduits exist from the Hemlock lake 29 miles distant from the city. The first one has been in use for thirty-two years without developing any rust holes. It consists half of wrought-iron and half of cast-iron pipes. The second one was constructed of plates of soft open hearth steel. After six years the pipe began to develop serious rust leaks, and this could not be attributed to external electric currents, as the conduit is laid through open country.

In spite of the high quality of the steel, however, small local differences of electric potential occur, and if the exit of the current so generated from the pipe is concentrated in a small area, then local corrosion is accelerated and "pitting" takes place. This local action is further intensified if there be breaks in the protective covering or irregularities in the metal. The leaks were found most where the pipe passed through wet ground, and where the waterproof protective coating had become damaged, and they were evidently caused by the water percolating through the soil coming in contact with the mild steel pipe.

Upon the general question of the relative corrosion of steel and wrought iron tubes, Messrs. H. M. Howe and B. Stoughton, the eminent metallurgists, express their opinions in the *Engineering and Mining Journal* of 1908. Their joint opinion, based on tests made by themselves and others, of which they have the necessary details, is that good modern makes of steel tubes resist corrosion as well as, and in some cases even better than, those of wrought-iron. Of course no iron or steel will resist the corrosive action of a mine water containing sulphuric acid, such as was described in detail in the *Builder*, page 34, Vol. 95, and tests of this order proved unfavourable even to modern steel tubing. Other tests consisted of the exposure of steel and wrought-iron pipes side by side, to the action of hot water, hot aerated salt water, and to other classes of water, and by leaving them buried in dampened ashes. The time of treatment varied from seven to twenty-six months, and they consider as a result of these careful observations that the prejudice sometimes expressed against steel is not justified by the balance of evidence, and that an adverse opinion probably emanates from tests made on steel of old makes and inferior quality.

Messrs. E. Heyn and D. Bauer have been carrying out experiments to determine the amount of corrosion of iron by water and water solutions. These are germane to those referred to in the *Builder*, Vol 95, page 94.

A special feature in the tests was the employment of Charlottenburg conductivity water (*loco citato*); and the results are stated to support the conclusions of Dr. Dunstan, that carbon-dioxide is not needful, but the presence of free oxgyen is essential. The iron does not obtain the oxygen from the water but from the atmosphere, for rusting was accelerated when air was drawn through the water.

Copper when in contact with the iron increased the rusting 25 per cent. when conductivity water was used, and 47 per cent. with sea water artificially prepared. In contact with nickel, iron rusts 14 to 19 per cent. more than it does by itself, and ingot iron in contact with cast-iron rusts less

"St. Cecilia": Monument in the Chapel, Wrotham Park. Miss E. M. Rope, Sculptor.

readily than when by itself, whilst cast-iron rusts more readily by about 50 per cent. It is found that iron in contact with a more positive metal, suspended in a liquid causing rusting, rusts less readily, and when in contact with a more negative metal, rusting takes place more readily than when iron is exposed under similar conditions by itself.

SACKVILLE COLLEGE, EAST GRINSTEAD.

THIS interesting Sussex almshouse was founded by the second Earl of Dorset, who, by his will dated 1609, left money for the purpose. The buildings, restored by Butterfield, are quadrangular, and have retained their Jacobean characteristics. The ivy-covered walls of the quadrangle exhibit several large mullioned windows and four old doorways. The north doorway gives access to the porch, and is surmounted by a sculptured panel displaying the arms of the Dorset family. High above the porch rises a small lantern. The principal rooms consist of a hall and chapel. The former is now used by the warden, but it was originally set aside for the lodging of members of the founder's family. Above the fireplace are the Dorset arms, and the date 1619, which we may reasonably presume to indicate the date of the completion of the building. This apartment is worth seeing for its old oak fittings and furniture. The chapel is not quite so interesting, but has retained portions of the old woodwork and an aumbry fitted with an old oak door. The kitchen contains a good collection of ancient fire-dogs, said to have come from Buckhurst, a neighbouring mansion.

SIDNEY HEATH.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, S.W., Mr. R. A. Robinson, Chairman, presiding.

Loans.—Sanction was given to Hampstead Borough Council to the borrowing of 5,900*l.* for electric lighting; and to St. Pancras Borough Council to the borrowing of 18,510*l.* for housing. It was also agreed to lend Stepney Borough Council 9,500*l.* for electric lighting.

Tramways.—It was agreed that the estimate of expenditure on capital account of 5,400*l.*, submitted by the Finance Committee in respect of the construction of the tramways authorised by the London County Council (Tramways and Improvements) Act, 1908, in Amhurst-road and Dalston-lane, be approved.

School Works.—It was agreed:—

That the estimate of expenditure on capital account of 880*l.*, submitted by the Finance Committee in respect of the paving of those parts of Venetian-road, Caldecot-road, and Bessemer-road upon which the Venetian-road site (Norwood) abuts, be approved.

Sackville College East Grinstead

That the estimate of expenditure on capital account of 171*l.*, submitted by the Finance Committee, in respect of taking out and lithographing quantities in connexion with a scheme of structural improvements at the Atley-road school (Bow and Bromley), be approved.

That the seal of the Council be affixed to the contract (when ready) to give effect to the tender of the Brightside Foundry and Engineering Company, Ltd., amounting to 373*l.*, for providing and fixing a boiler and low-pressure hot-water heating apparatus at the Tottenham-road school (Hackney, C.).

Repairs to Schools on Schedule.—The Education Committee reported as follows:—

"Notice has been given to the contractors for repairs to school buildings on the schedule of prices, for the termination of their contracts on November 28, 1908. New tenders will shortly be obtained, and in the meantime we propose that the existing contractors shall continue the work until December 31, 1908, except in the case of Messrs. Lascelles & Co., Ltd. This firm, who are contractors for the following electoral divisions—Bow and Bromley, Finsbury, C. and E., Haggerston, Islington, E., N., S., and W., Limehouse, Poplar, St. George-in-the-East, Stepney, and Whitechapel, are making arrangements to terminate all the work they have in hand for the Council by November 28, 1908. We have ascertained that Messrs. Barrett & Power, one of the present contractors, will be willing to carry out the work in the above-mentioned electoral division until December 31, 1908, on the same terms as are allowed to Messrs. Lascelles."

The Committee recommended accordingly, and it was agreed.

Unsuitable Schools: Remodelling Completed.—The Committee recommended:—

That, in view of the fact that the remodelling of the premises of the twenty-seven non-provided schools specified in the statement separately submitted by the Education Committee on December 8, 1908, and which were, under the resolution of May 30, 1905, declared to be unsuitable for the purposes of elementary education, has now been carried out to the satisfaction of the Council, the resolution of May 30, 1905, be rescinded so far as regards the cessation of maintenance of such schools; and that the Managers and the Board of Education be so informed.

The recommendation was carried after discussion and the defeat of the following amendment:—"That all the words after 'That' in the first line be deleted, and the following words substituted, *i.e.*, 'the recommendation be referred back to the Committee, with instructions to report whether the non-provided schools in question can be considered suitable for temporary or permanent accommodation.'"

Open Space, Tower Bridge-road.—It was agreed that the site in Tower Bridge-road be transferred to the control and management of the Bermondsey Metropolitan Borough Council for use as an open space or recreation-ground in connexion with the churchyard of St. Mary Magdalene now under the control of the Borough Council.

Bills in Parliament.—The following recommendations were agreed to:—

That the Parliamentary Committee be authorised to take all necessary steps to secure the insertion in the London (Westminster and Kensington) Electric Supply Companies Bill of the usual powers for the Council with regard to street works and the protection of the Council's property.

That the Thames Tunnel (North and South Woolwich) Bill, 1909, be approved; that the seal of the Council be affixed to a petition for leave to bring in the Bill; and that the Bill and petition, with such necessary alteration (if any) in the Bill as the Parliamentary Committee may consider desirable, be deposited pursuant to the standing orders of Parliament.

Sanitary Provisions: Legislation in Session 1909.—The Parliamentary Committee reported as follows:—

"We have had under consideration the resolution of the Council on November 3, 1908, as follows: That application be made to Parliament in the session of 1909 for authority—(i.) To enable the Council to determine, at exhibitions, theatres, and similar places of resort, the number of sanitary conveniences to be provided, not only for use by the public, but also by artistes and employees engaged thereat, and by workmen employed in the erection of the buildings and the laying out of the grounds; (ii.) to enable the Council to determine the number of sanitary conveniences to be provided for use by workmen employed in the erection of all large buildings.

We have experienced considerable difficulty in dealing with these instructions. In the first place, we have considered the matter in relation to theatres and other such places which are licensed by the Council, and have had before us the views of the Public Health Committee (on whose recommendation the resolution was passed), and also those of the Theatres and Music-halls Committee. The Council has made regulations, the observance of which is made a condition of the granting of licences for music, music and dancing, and stage plays. These regulations deal with the provision of sanitary conveniences, and also a number of other matters, and the Theatres Committee have represented to us that no difficulty has been experienced in securing the due observance of the sanitary regulations. That Committee state that they are strongly of opinion that it is not only unnecessary but undesirable to introduce legislation for the purpose suggested, as the practical effect of obtaining such powers might be to curtail rather than extend the present powers of the Council with regard to the sanitation of places of public entertainment. The Public Health Committee, on the other hand, are of opinion that the powers possessed by the Council are inadequate, particularly in regard to any increase in the sanitary accommodation at any licensed place, which may be found to be necessary after it has been licensed. Without expressing any opinion on the matter, we think the Council should be made acquainted with the difficulties that have arisen. With regard to instruction (ii.) it appears to us that perhaps the question, so far as it would affect the relations between the Council and the metropolitan borough councils as the sanitary authorities, has not been duly considered. So far as existing powers analogous to the present proposal are concerned, the Council and the sanitary authorities discharge certain duties, but, generally speaking, the local administration is under the sanitary authority. We think that Parliament will expect evidence not only as to the need for legislation, but also as to the extent to which the proposal is supported by the sanitary authorities. On this latter point we have no information. Further, the Council has not indicated how the term "large buildings" in its resolution is to be defined. The Government has introduced the Building Operations and Engineering Works Bill, which proposes to confer power on the Secretary of State to make regulations to secure the health and safety of persons employed in building operations and engineering works. We think that the provision of sanitary conveniences could be better dealt with in the Government Bill. In the event of the Council deciding not to seek a special power, we propose to approach the Home Office with a view to the sanitary provision required being inserted in their Bill. In order that the Council may come to a decision as to the course to be adopted, we recommend: (*a*) That so much of the resolution No. 1 (*b*) (i.) of November 3, 1908 (p. 881), relating to seeking legislation with regard to the provision of sanitary conveniences at exhibitions, theatres, and similar places of resort, and at such places during the course of erection be rescinded; (*b*) that so much of the resolution No. 1 (*b*) (ii.) of November 3, 1908 (p. 881), relating to seeking legislation with regard to the provision of sanitary conveniences for workmen employed on the erection of all large buildings be rescinded."

The recommendations were agreed to, and the Council, having transacted other business, adjourned.

Architectural Societies.

EDINBURGH ARCHITECTURAL ASSOCIATION.

The first ordinary meeting of the session of the Edinburgh Architectural Association was held in the Association Rooms, 117, George-street, on the 2nd inst., Mr. J. Inch Morrison, President, in the chair. Mr. James L. Lawrence, M.R.San.I., read a paper, "Some Notes on Ventilation," which was illustrated with limelight views. Mr. Lawrence said that enough importance was not attached to ventilation, and in many buildings faults in this matter were only discovered after perhaps a long occupation. Architects too often designed buildings from a monumental point of view, forgetting that the best monument to their memory was a building which satisfied all the requirements for ordinary purposes, in addition to having a good architectural design. There were many mistaken ideas regarding ventilation, and the position of manufacturers in relation to it. If a firm of importance were to be employed, there should be less restriction imposed upon them in regard to their work. Mistaken ideas also arose as to natural ventilation from the fact that it was not correctly attended to in the first instance, and not because it was unworkable. In many cases no attention was given to the upkeep of ventilation after it had been put in, and this had been proved to be the case in different churches and schools. In conclusion, Mr. Lawrence complained that the regulations regarding ventilation in schools were made without regard for the many systems in use, and they could not be applied to all of them.

NOTTINGHAM ARCHITECTURAL SOCIETY.

The first monthly meeting of the Designing and Discussion Club was held on Tuesday evening at the Society's Room. The subject set by the visitor, Mr. W. Brandreth Savidge, A.R.I.B.A., was a "Block of Six Almshouses," being the first portion of a scheme for eighteen houses. A common room was to form part of the first block. Some very creditable designs were sent in, and a discussion, in which the junior members took part, followed the criticism.

PROJECTED BUILDINGS IN THE PROVINCES.

ABERFELDY (Perth). — Hospital (3,000*l.*). Messrs. Dunn & Watson, architects, 35, Lincoln's-inn, W.C.

Aston (Birmingham).—New blocks at workhouse. Messrs. Whitwell & Son, architects, 1, Newhall-street, Birmingham.

Birmingham.—Roman Catholic church of the Benediction, Messrs. Nicol & Nicol, architects, 117, Colmore-row, Birmingham; Council school, Sladefield-road, Messrs. Buckland & Farmer, architects, Norwich-buildings, Congreve-street, Birmingham.

Beltinge (Kent).—Church. Mr. W. D. Caröe, architect, 3, Great College-street, S.W.

Bournemouth.—New school (650 places). Mr. A. J. Lacey, architect, Municipal-buildings, Bournemouth.

Bristol. — Roman Catholic school, St. Nicholas (3,000*l.*). The Very Rev. Canon Scholes, Basingstoke.

Chippenham (Wilts).—Works and shops for the Wholesale Co-operative Society. Mr. F. Harris, architect, Balloon-street, Manchester.

Chatham.—New school (15,000*l.*). Mr. H. Dunstall, architect, Chatham.

Chelmsford.—School (20,000*l.*). Messrs. C. & W. H. Pertwee, architects, Bank-buildings, New-street, Chelmsford.

Colchester.—Offices and new blocks at workhouse. Mr. C. E. Butcher, architect, 3, Queen-street, Colchester.

Dudley.—Additions to infirmary. Messrs. Nicol & Nicol, architects, 117, Colmore-row, Birmingham.

Evesham.—County school. Messrs. Buckland & Farmer, architects, Norwich-buildings, Congreve-street, Birmingham.

Gloucester. — Extensions to Shire Hall (8,000*l.*). Mr. R. Phillips, late County Surveyor, Shire Hall, Gloucester.

Hereford.—Additions to Free Library, Mr. J. Parker, architect, City Hall, Hereford; secondary school, Cattle Market, Mr. R. Jack, architect, County Hall, Hereford.

Hove (Brighton).—Catholic church. Mr. B. H. Dixon, architect, 35, East-street, Brighton.

Henley. — Workhouse additions. Messrs. Smith & Sons, architects, 167, Friar-street, Reading.

Handsworth (Birmingham).—Isolation hospital. Mr. Richardson, architect, Town Hall, Handsworth.

Plymouth.—Roman Catholic school, North Division. The Very Rev. Canon Scholes and Mr. C. Raymond, architects, 1, Presbytery, Burgess-road, Basingstoke.

Penmaenmawr (Carnarvon).—Monastery for the Franciscan Capuchins Brotherhood. The Very Rev. Canon Scholes, architect, Basingstoke.

Romford.—Parish hall, Church-path. Messrs. Nicholson & Corlette, architects, 2, New-square, Lincoln's-inn, W. C.

Ross (Herefordshire).—Secondary school. Mr. A. Small, architect, Gloucester-road, Ross.

Reading (Berks)—Rebuilding higher-grade school. Messrs. Ravenscroft, Son, & Morris, 22, The Forbury, Reading.

Rugby.—Infectious diseases hospital. Mr. T. Willard, architect, Market-chambers, Rugby.

Salisbury.—Isolation hospital (8,000*l.*). Mr. H. Goodman, architect, 13, Blagrave, Reading.

Southport (Lancs.).—Homœopathic hospital. Mr. Percy Adams, 29, Woburn-place, W.C.

Southsea (Hants).—Catholic church of St. Patrick (10,000*l.*). Mr. G. Smith, architect, Victoria-road North, Southsea.

Southend-on-Sea. — Hippodrome (20,000*l.*). Mr. Bertie Crewe, architect, 75, Shaftesbury-avenue, W.C.

THE BUILDER

DECEMBER 12, 1908.

TO CORRESPONDENTS.

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MEETINGS.

FRIDAY, DECEMBER 11.

The Association of Water Engineers (Thirteenth Winter Meeting, Geological Society Rooms, Burlington House, W.).—(1) Mr. H. Robert Mill, D.Sc., LL.D., on "The Measurement of Rainfall," illustrated by lantern slides. (2) Mr. C. Jones on "The Water Supply of Hythe, Kent." (3) Mr. C. F. Gettings on "Teignmouth Moorland Water Scheme." (4) Discussion on "The Registration of Plumbers as Affecting Water Authorities," to be introduced by the Secretary. 2 p.m.

Birmingham Architectural Association.—Mr. E. S. Prior on "English Parish Churches, Chiefly of the XVth Century."

Glasgow Architectural Craftsmen's Society.—Annual dinner.

SATURDAY, DECEMBER 12.

The Association of Water Engineers.—Winter meeting concluded). 10.30 a.m.

MONDAY, DECEMBER 14.

Royal Institute of British Architects.—Mr. T. R. Spence on "The Elements of Design in Internal Decoration," with lantern illustrations. 8 p.m.

Clerks of Works' Association of Great Britain (Carpenters' Hall).—Monthly meeting. Lecture by Mr. H. W. Fincham on "Ely Cathedral." 8.15. p.m.

University of London (South Kensington, S.W.).—Mr. Banister Fletcher on "The Louvre, Paris," illustrated. 8 p.m.

TUESDAY, DECEMBER 15.

Institution of Civil Engineers.—Paper to be further discussed, "The Rotherhithe Tunnel," by Mr. E. H. Tabor. 8 p.m.

WEDNESDAY, DECEMBER 16.

Northern Architectural Association (Students' Meeting).—Mr. H. A. Wilson on "The Transitional Period, with special reference to work at Brinkburn, Tynemouth, etc." 7.30 p.m.

Edinburgh Architectural Association (Associates' Meeting).—Mr. J. Thomson, C.E., on "Drainage and Sewage Purification for Country Houses." 8 p.m.

Junior Institution of Engineers (at Royal United Service Institution, Whitehall).—Mr. Eric F. Boult, G.I.Mech.E., on "Motor Omnibuses." 7.30 p.m.

THURSDAY, DECEMBER 17.

Architectural Association Debating Society.—A joint meeting of the Debating Society with the Junior Art-Workers' Guild, to be held at Clifford's-inn, Fleet-street, E.C. 8 p.m. Papers on "The Interior Decoration of Public Buildings."

Architectural Association Camera and Sketching Club.—Paper by Mr. H. W. Brittan on "Inigo Jones and Wren." 8 p.m.

Institution of Electrical Engineers.—Messrs. W. Cramp and B. Hoyle on "The Electric Discharge and the Production of Nitric Acid." 8 p.m.

FRIDAY, DECEMBER 18.

Institution of Mechanical Engineers.—Mr. L. A. Legros on "Typecasting and Composing Machinery." 8 p.m.

Birmingham Architectural Association.—Sir C. A. Nicholson, Bart., on "Churches of Northern France."

Institution of Civil Engineers (Students' Meeting).—Mr. R. Wolfenden on "High-power Water-turbines on Moderate Falls." 8 p.m.

Illustrations.

DESIGN FOR REMODELLING THE NATIONAL GALLERY.

THIS, which is a revised form of a design previously published in the *Builder*, is described in a separate communication in the present issue (page 638).

BUSINESS PREMISES, 28, MARGARET-STREET.

THIS building has been designed to suit the requirements of a commercial firm, and has a well-lighted showroom covering the whole of the ground-floor.

It is of fire-resisting construction throughout, and the lower floors are entirely free of cross walls, the upper part being carried on steelwork.

The façade is constructed of Portland stone with Luton purple facing-bricks. The dormers are covered with copper and the sloping roof with Westmorland slates. The staircase is granolithic, with teak treads.

The builders were Messrs. G. Godson & Sons, of Kilburn, and the architect Mr. John Belcher, A.R.A.

ROYAL COLLEGE OF SURGEONS.

THIS design was prepared for the Royal College of Surgeons, in accordance with a scheme for a new building containing offices and examination-rooms for the Conjoint Examining Board of the Royal College of Physicians and Surgeons, and accommodation for the purpose of cancer research.

The perspective drawing was exhibited in the Royal Academy.

The architect is Mr. E. C. Frere.

Engineering Societies.

INSTITUTION OF CIVIL ENGINEERS.

At the ordinary meeting on Tuesday, December 8, Mr. James C. Inglis, President, in the chair, the paper read was "The Rotherhithe Tunnel," by Mr. E. H. Tabor, M.Inst.C.E. This tunnel, which has been constructed by the London County Council, crosses the river Thames between Rotherhithe and Shadwell. The total length, including approaches, is 6,883 ft., or 1·3 mile. A roadway, 16 ft. in width, and two footways are provided. The tunnel proper is lined with cast-iron, and is 30 ft. in diameter outside and 27 ft. clear inside. There are four shafts of 50 ft. internal diameter, one on each bank of the river, and one at the end of the cast-iron lined tunnel on each side. The length of the subaqueous portion is 1,535 ft., the river being crossed obliquely. The least thickness of cover under the river is 8 ft. The whole of the tunnel was constructed by the shield process under compressed-air, a moderate pressure only (10 to 20 lb. per square inch) being employed. The work was started in April, 1904, and the tunnel was opened for traffic on June 12, 1908. The tunnel and approaches were first described in detail. Some particulars were given of the machinery employed, and full descriptions of the shields, air-locks, etc., followed. The progress made with the different portions of the work was then fully dealt with, and the methods of execution adopted by the contractors described.

JUNIOR INSTITUTION OF ENGINEERS.

With the permission of Mr. Selfridge, the members of this Institution were recently enabled to visit the Selfridge Store building, in course of erection at 410, Oxford-street, London. They were shown over by the architect, Mr. R. Frank Atkinson, and Mr. S. Bylander (Member of Council), Chief Engineer to the contractors, Messrs. Waring & White (1906), Ltd. The building is of the warehouse class, the frontage to Oxford-street being about 250 ft., and to Duke-street, 175 ft. The columns are spaced 24 ft. centres in one direction, and 22 ft. centres in the other, forming floor panels 24 ft. by 22 ft. One girder is placed half way, making the span of the reinforced concrete floor 12 ft. The building has three basements, and in addition to the ground story there are four upper stories, making eight stories in all. The third basement, however, extends only over a small part of the site, and is used for machinery. The whole of the site is surrounded by ordinary concrete retaining walls, except opposite the third basement, where the foundations extend 60 ft. below the pavement level, at which point a reinforced wall is built. The height of stories, except ground and first floors, is about 15 ft. from floor to floor. There are nine passenger elevators about 6 ft. square, two freight elevators and five staircases. The steelwork is protected from fire by at least 2 in. of clinker concrete in all cases. The façade to Oxford-street and Duke-street is Portland stone; that to Somerset-street is brick. The exterior walls are self-supporting, and the interior walls are carried on steel. The thicknesses of walls throughout are in accordance with the London Building Act, and no reduction in thickness for interior walls has been permitted. The cubical contents of each part of the building is limited in accordance with the Building Act, and hence the necessity of small rooms and many interior walls. The girders in the floors have been figured to a total load of 220 lb. per square foot. The main girders and columns are figured for the same load, except for the main girders, for which 10 per cent. reduction has been allowed and 20 per cent. for the columns for the lower tiers. The steelwork has been designed in accordance with the before-mentioned load with a factor of safety of 4. The load on the soil is 5,000 lb. per square foot. The concrete floors are 6½ in. thick for a span of [illegible]. The fireproof partitions are made of 2 to 3 in. concrete blocks. The floors generally are finished with 1 in. flooring.

METROPOLITAN ASYLUMS BOARD.

THE following matters were dealt with at the fortnightly sitting of the Metropolitan Asylums Board on Saturday:—

Nuconomiser.—The Works Committee reported that on March 4, 1905, the Board authorised a total expenditure of 7,600*l.* on installation of Nuconomiser plant (together with the necessary building works and engineering contingencies) in connexion with the heating and hot water supply at Bow Hospital, it being anticipated at the time that a saving of at least 14 per cent. per annum, or not less than 1,000*l.*, would be effected on this outlay. Of this total 5,193*l.* represented the amount of Messrs. Ashwell & Nesbit's tender for the installation of the Nuconomiser plant. In a report which they had received from the Engineer-in-Chief as to the results which have attended the installation, the working of which had extended over the summer seasons of three years (it having been impossible to carry on the work during the winter months), Mr. Hatch states that the total amount paid to Messrs. Ashwell & Nesbit was 5,238*l.*, or only 40*l.* in excess of the amount of their tender; whilst, comparing the years ended at Michaelmas, 1908, with the average of the three years ended at Michaelmas, 1905, the economies effected during the first two months of complete working amounted in value to a total of 1,549*l.*, viz., 1,266*l.* (due to a reduction on the steam coal account), 138*l.* (due to reduction of staff), and 145*l.* (due to economy in the water supply).

Boiler Foundations.—The same Committee stated that the work of under-pinning the steam boilers and reconstructing the flues thereof at Tooting Bec Asylum had been satisfactorily completed, at a total cost of 683*l.* 17*s.* 10*d.* The Engineer-in-Chief reported that the works had resulted in a marked improvement in the efficiency of the boilers.

DIOCESAN LODGE, BIRMINGHAM.—A diocesan lodge has been erected by the Council of the Birmingham Girls' Friendly Society on a site at the corner of Church-street and Great Charles-street. The new premises have accommodation for sixty boarders. The architects of the building were Messrs. Osborn, Pemberton, & White.

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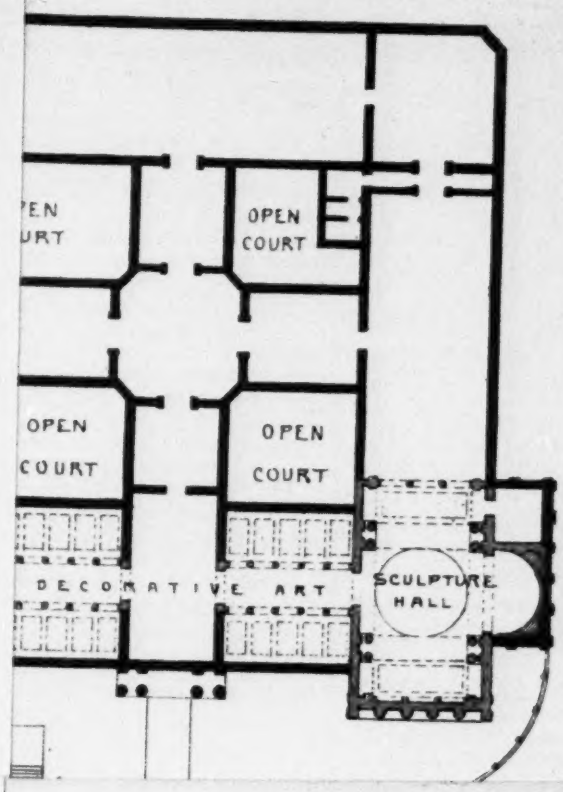
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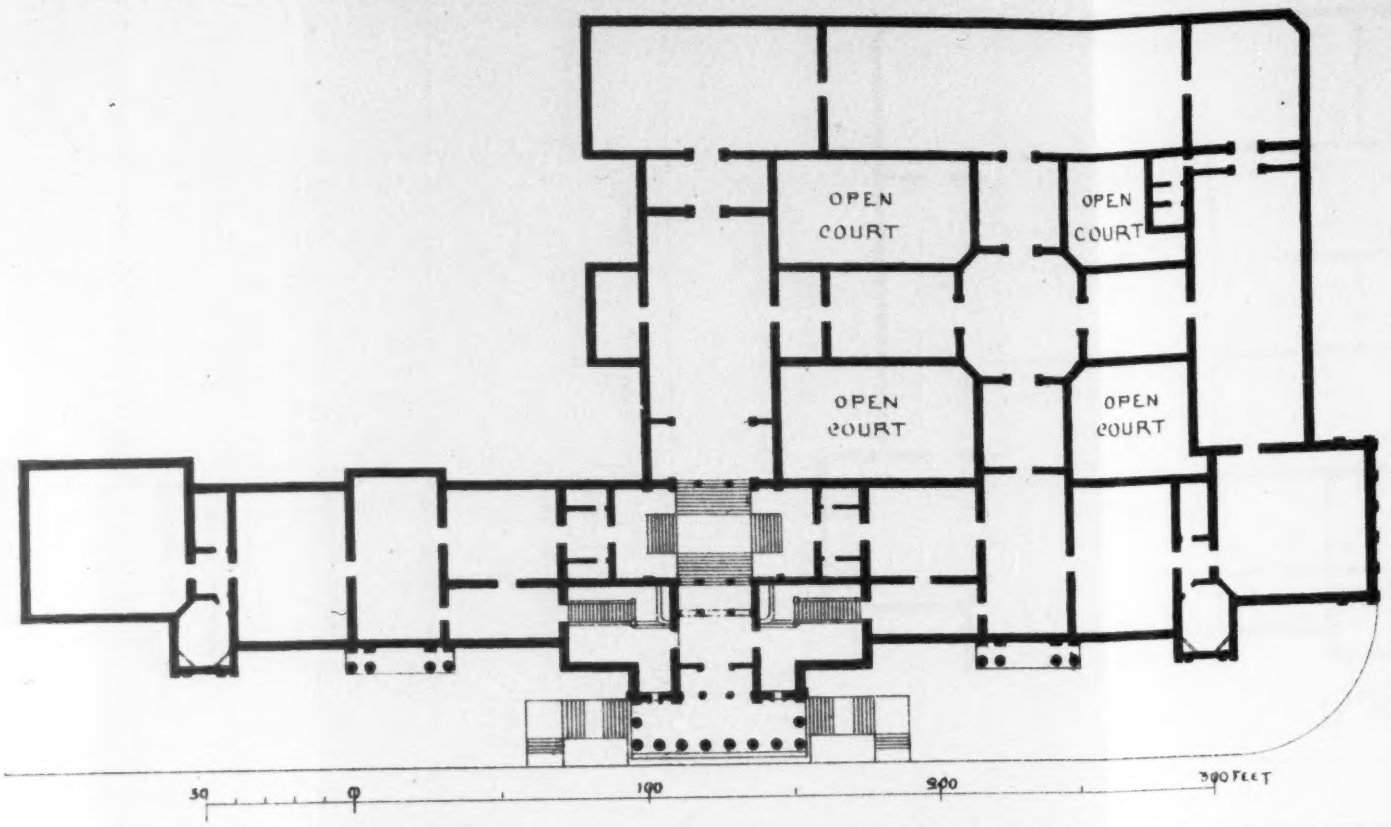

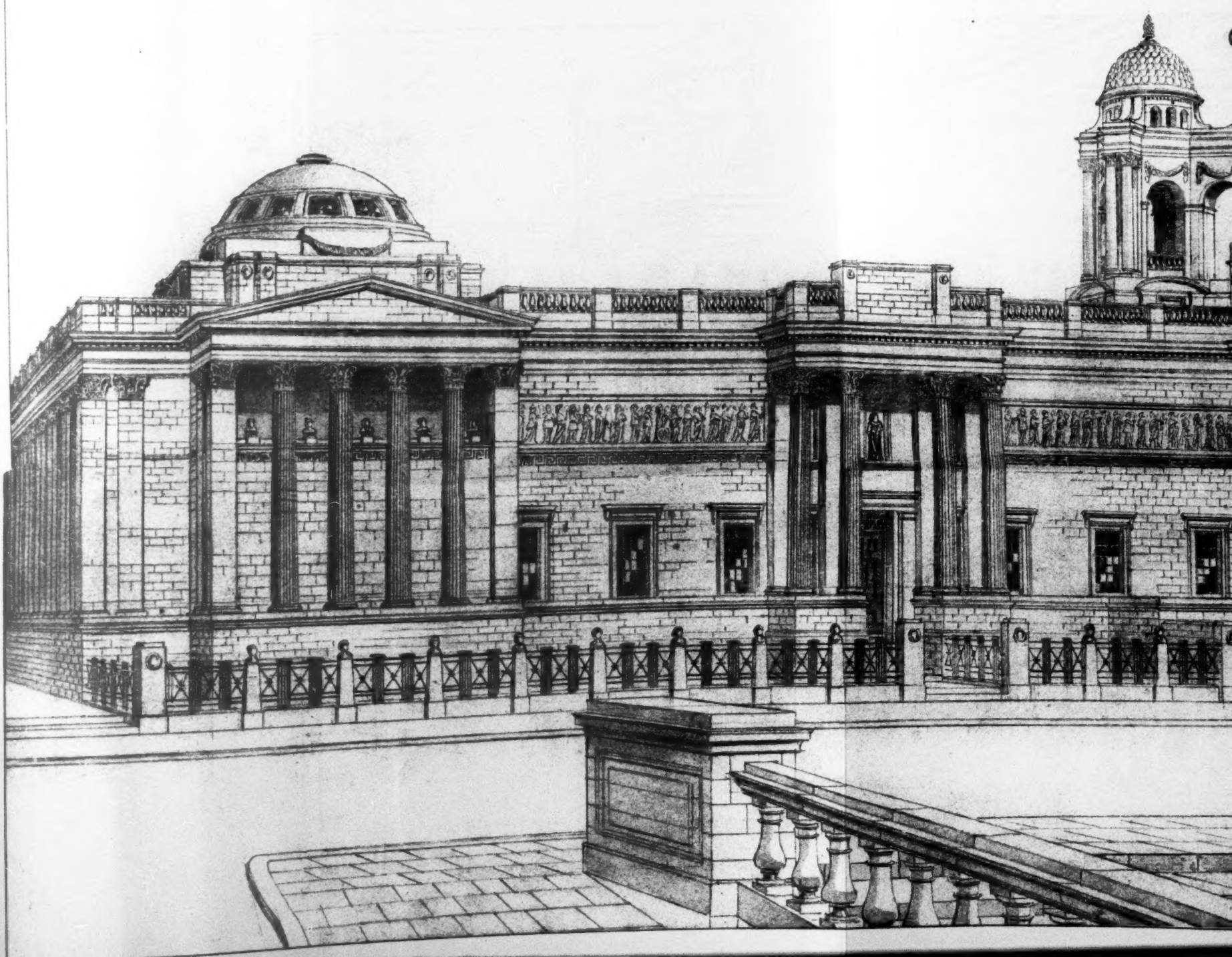

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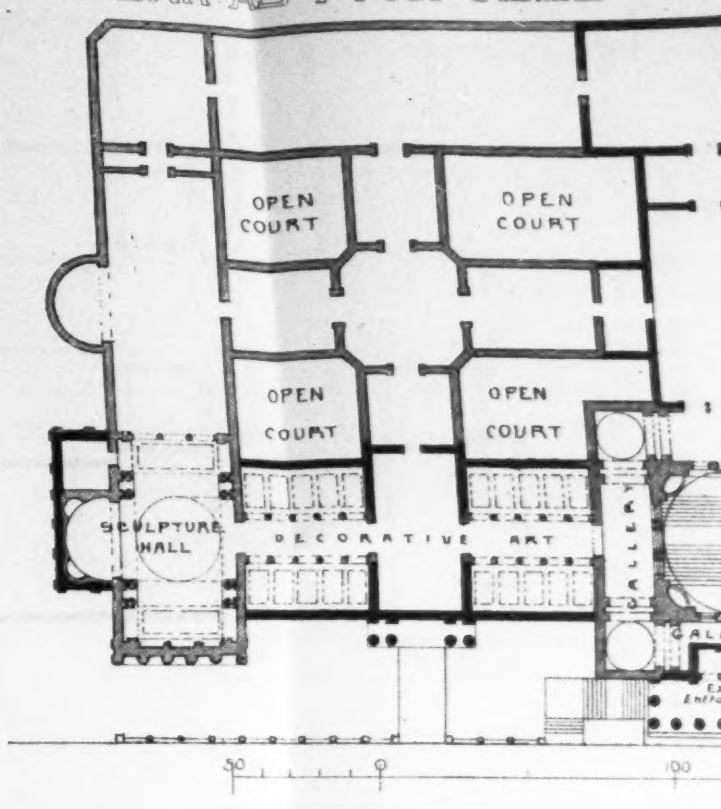

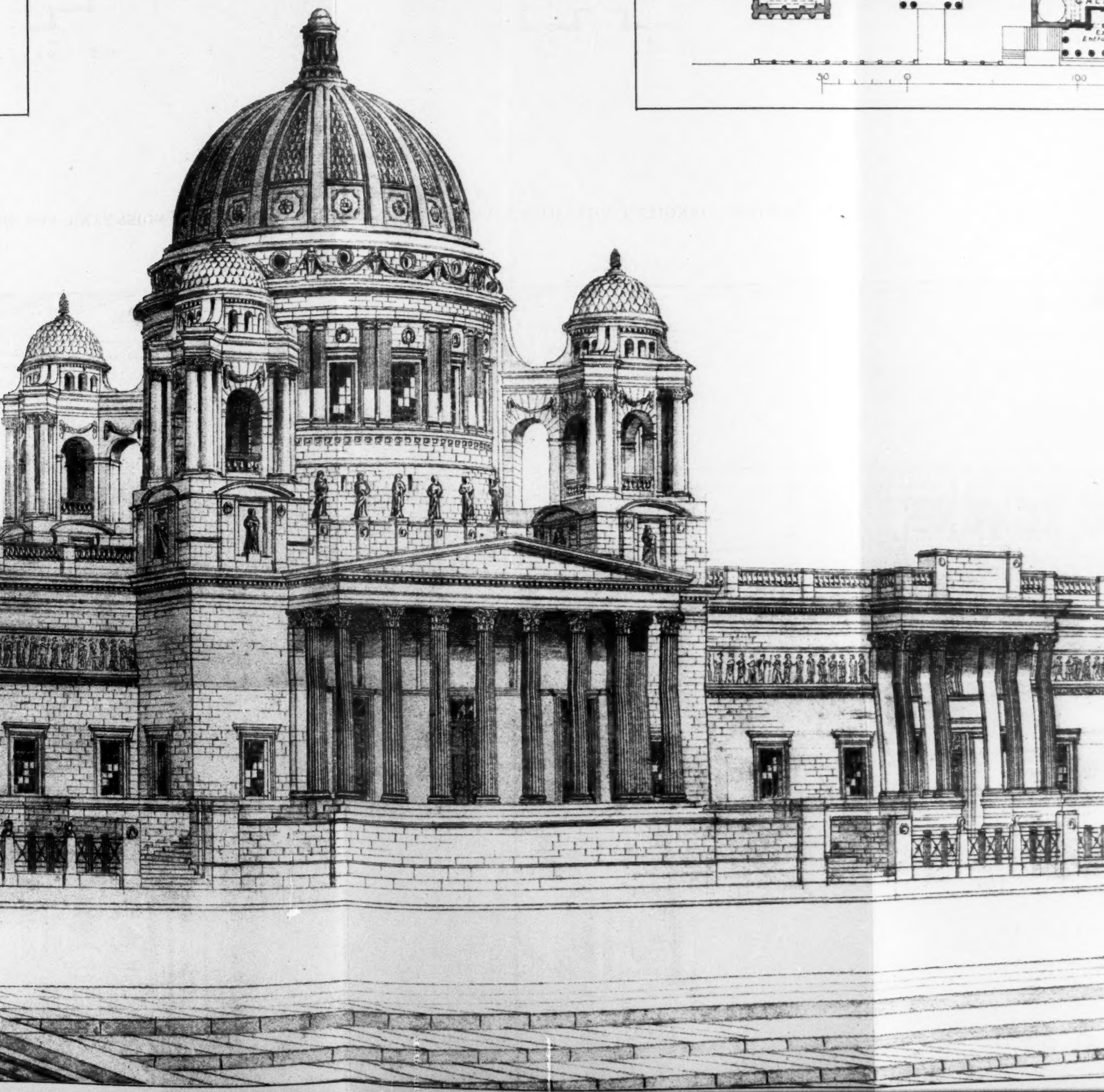

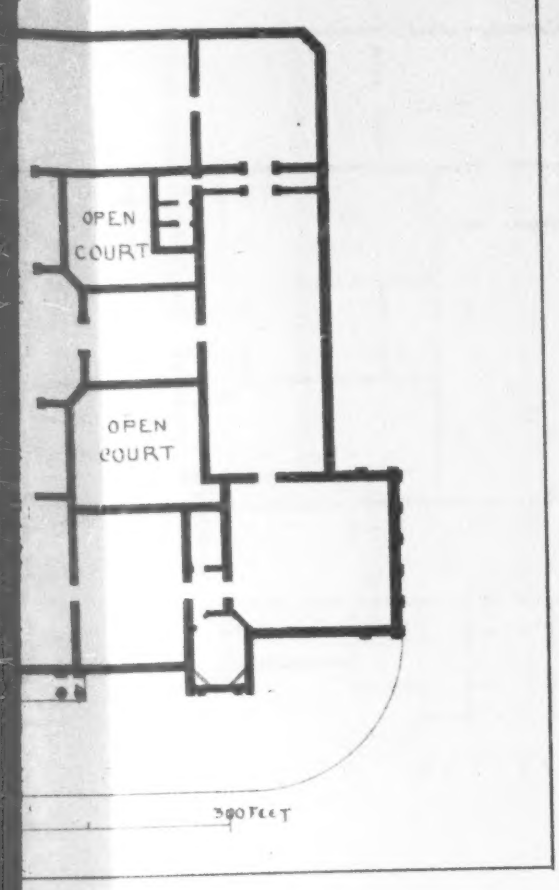
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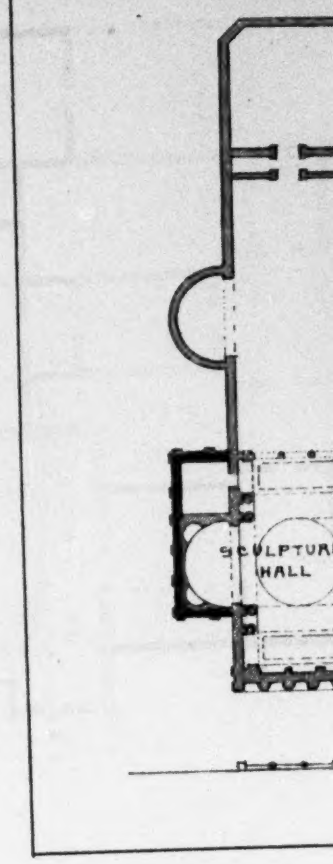
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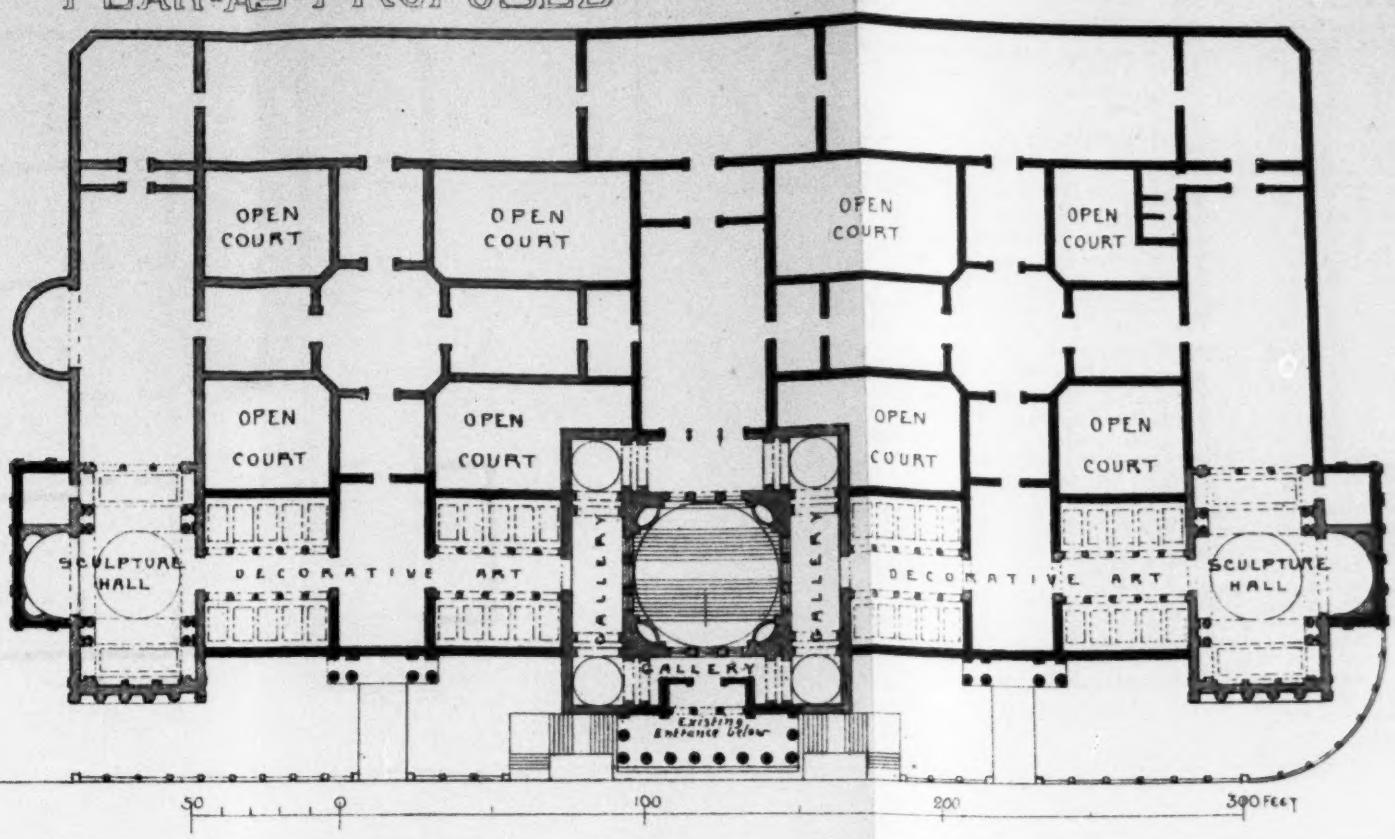

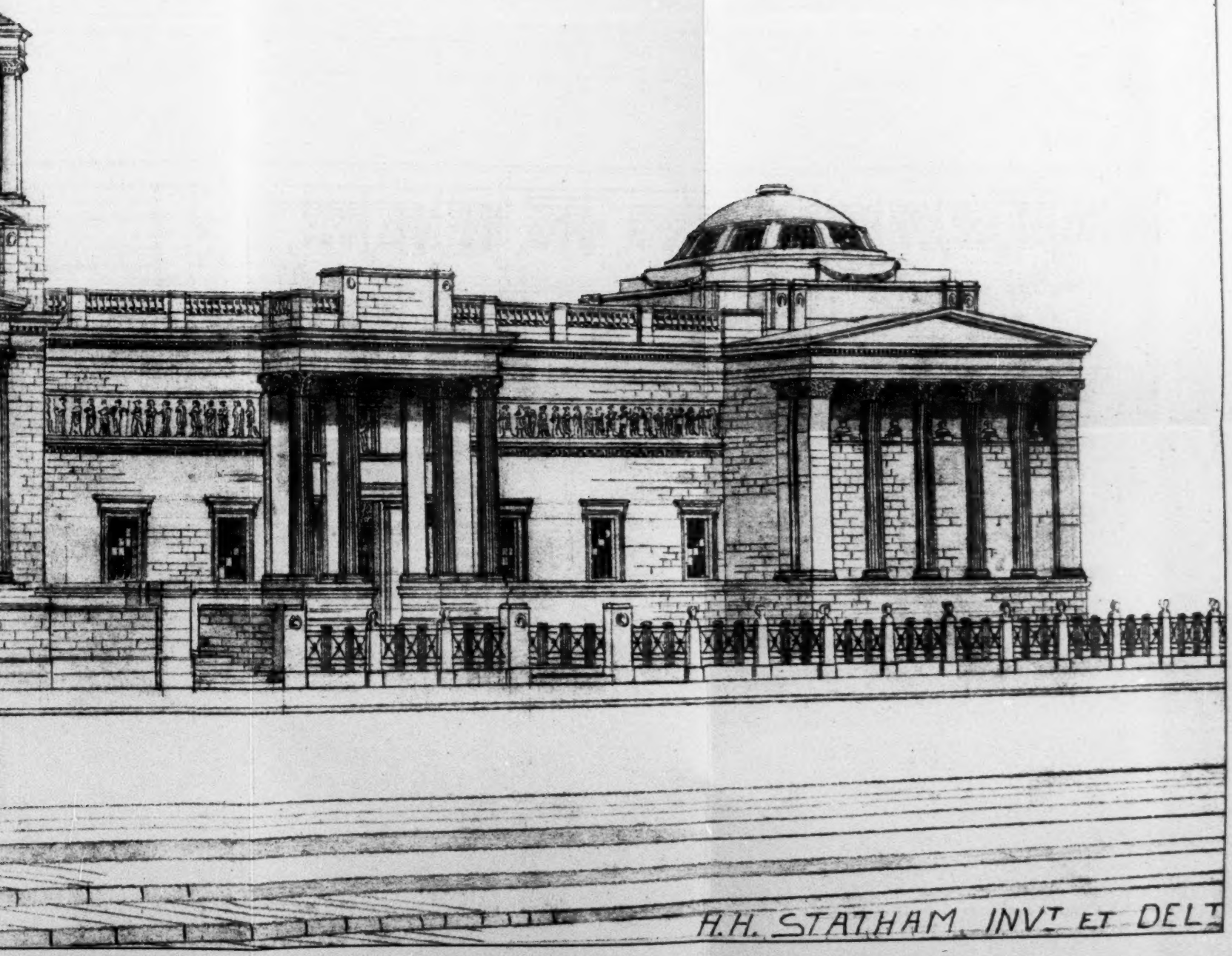

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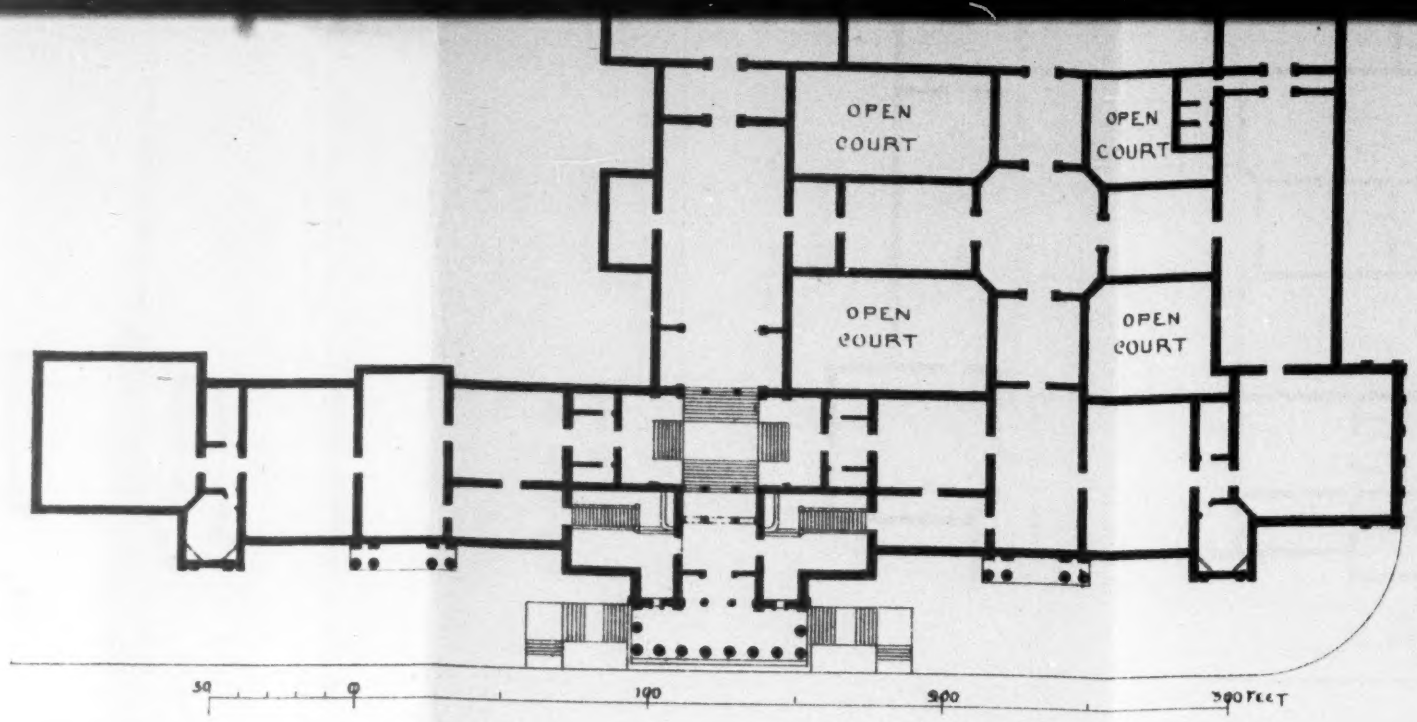

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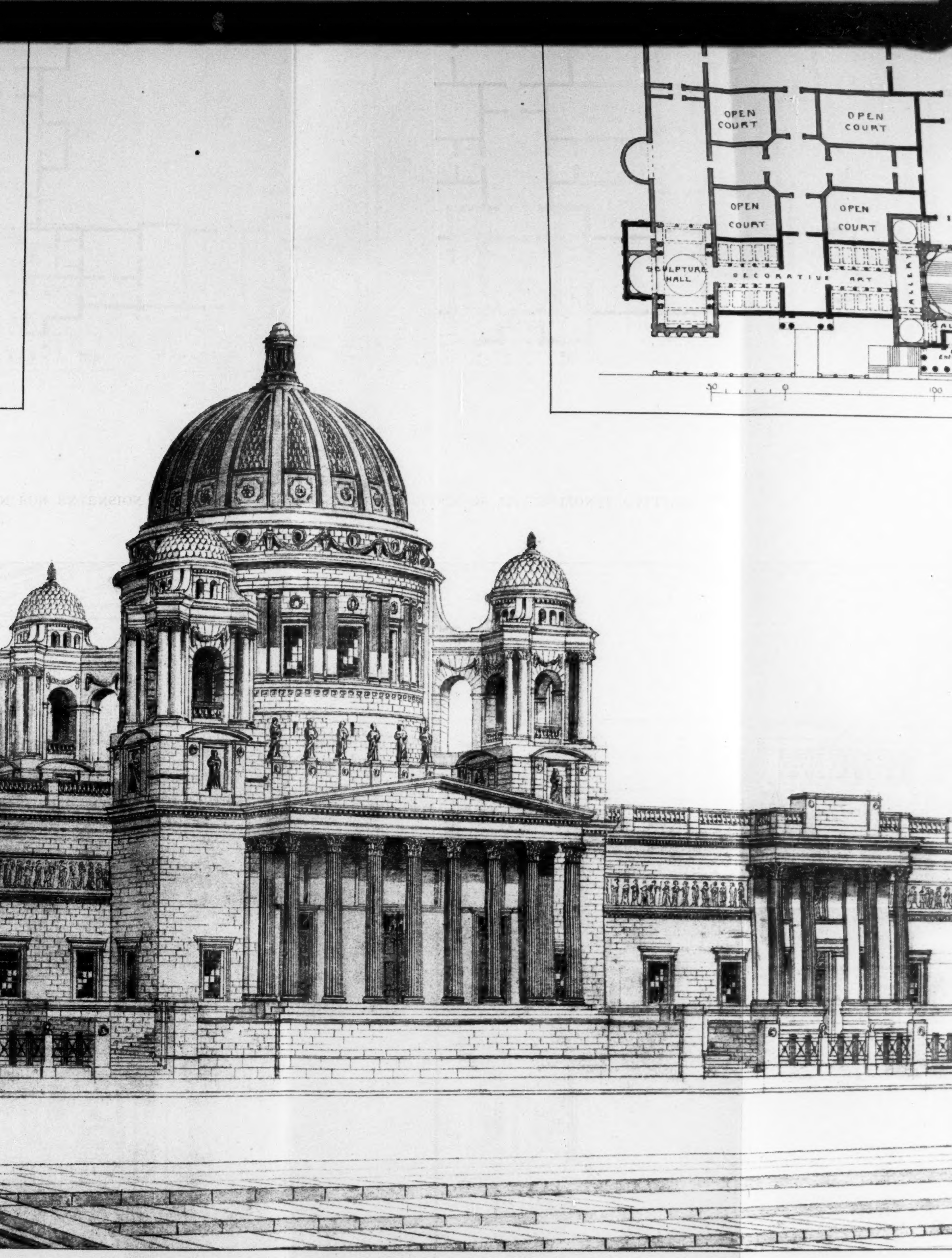

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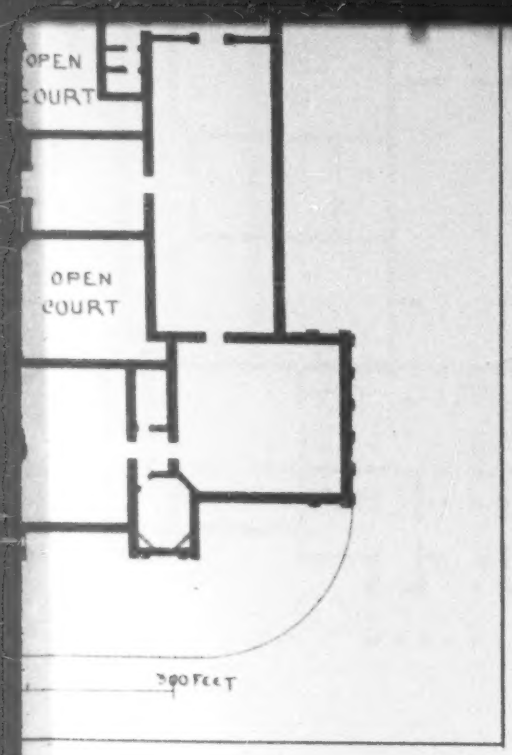
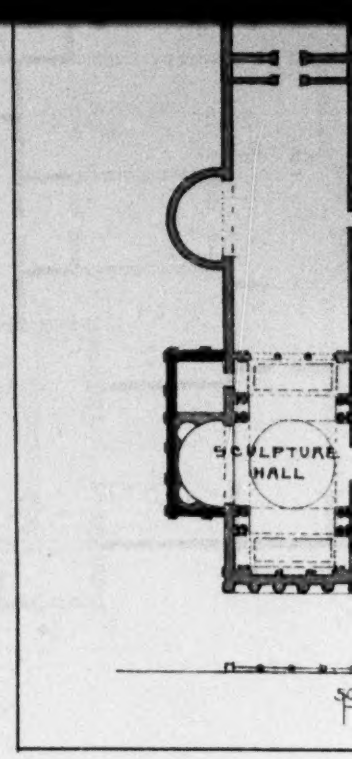
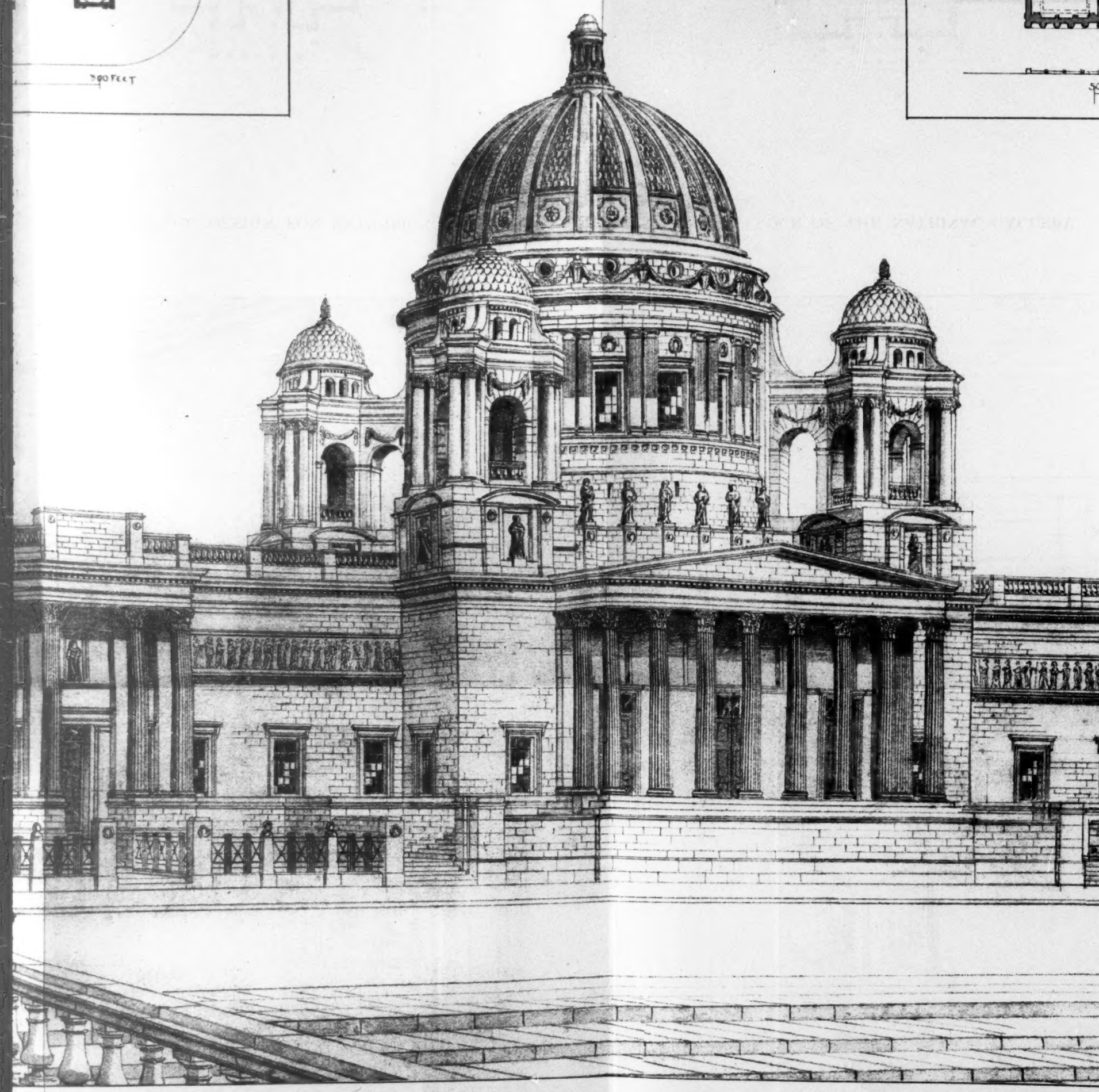
By Mr. H. Heathcote Statham, F.R.I.B.A.







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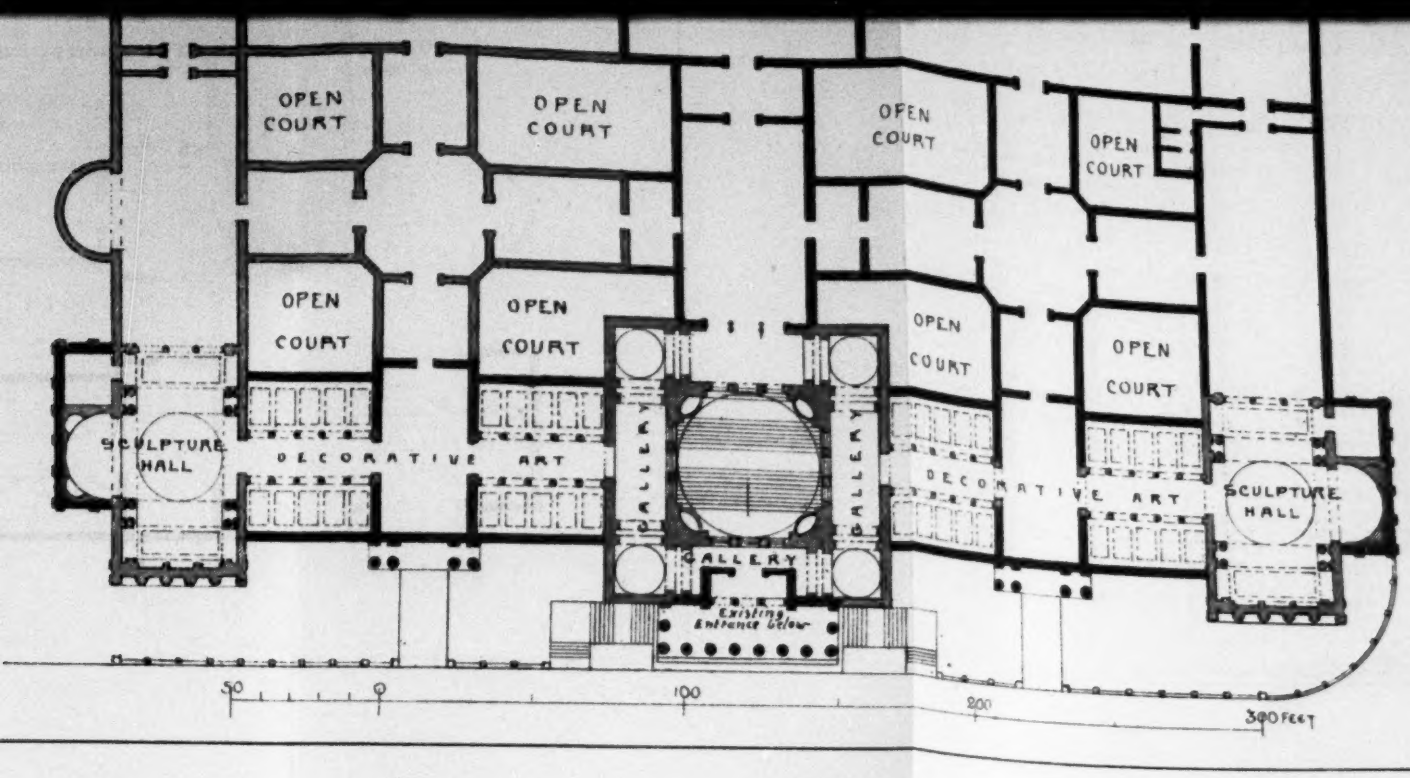

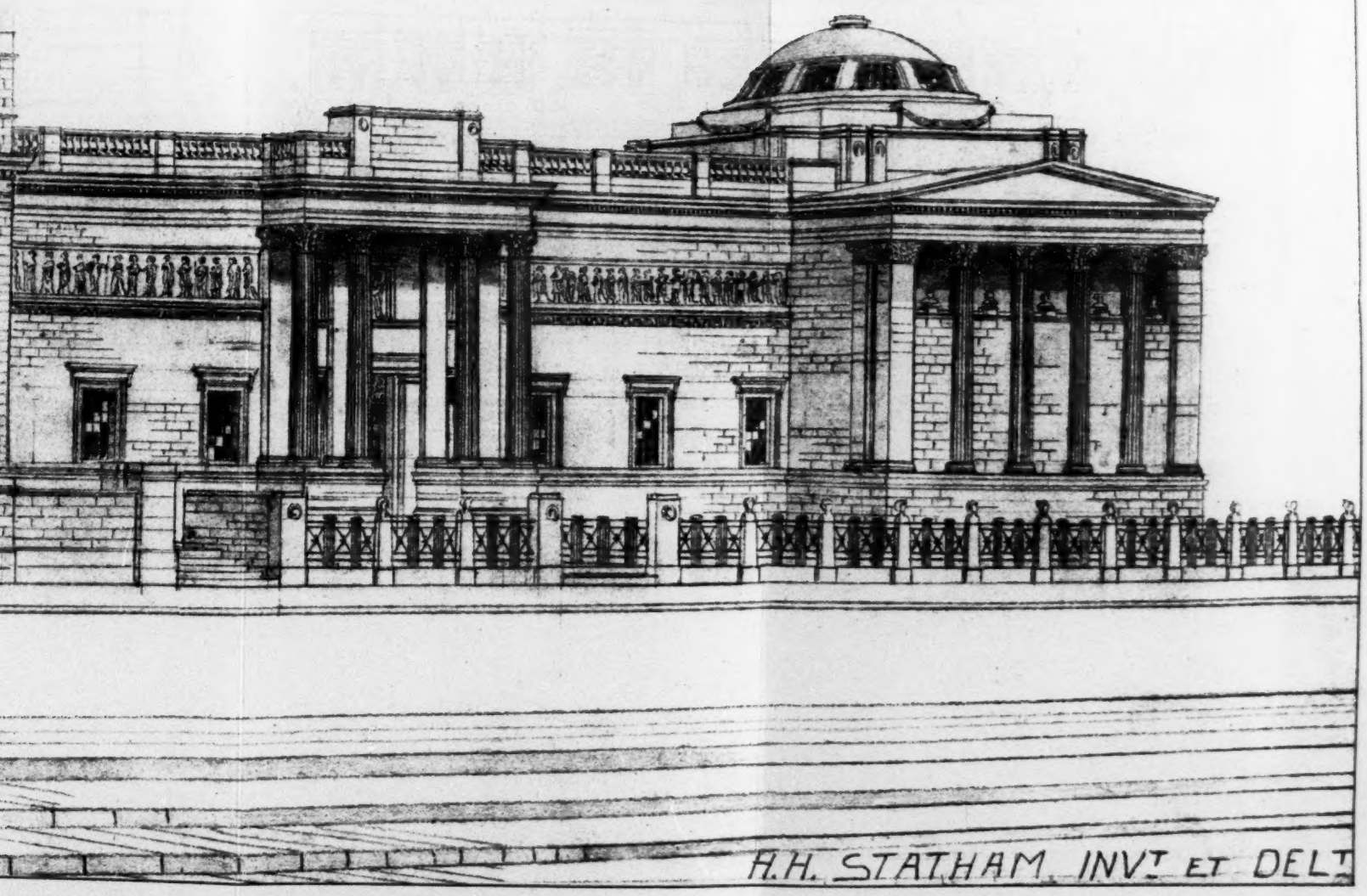

A.H. STATHAM, INVT ET DELT

AL GALLERY.

Chief
Waring
of the
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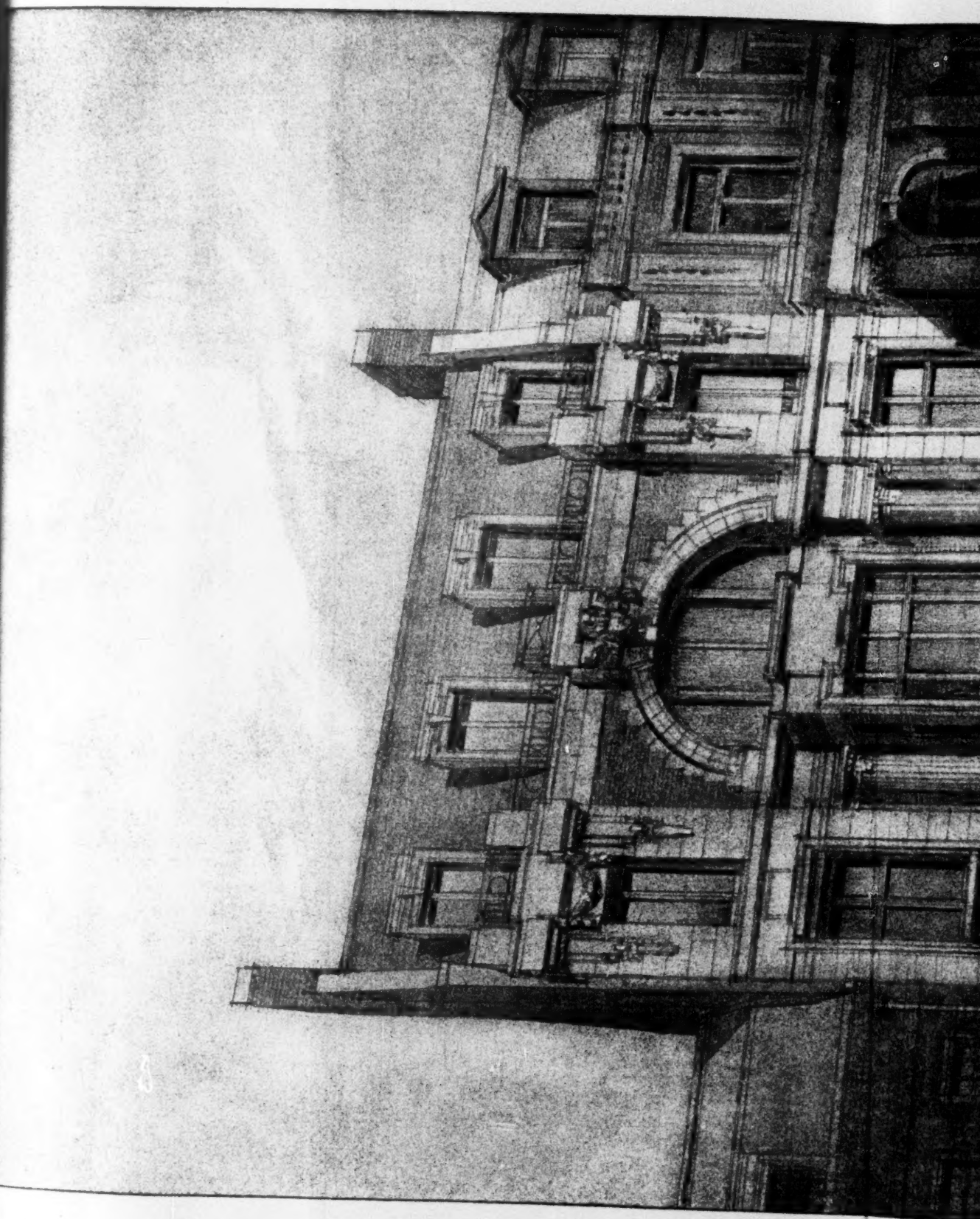
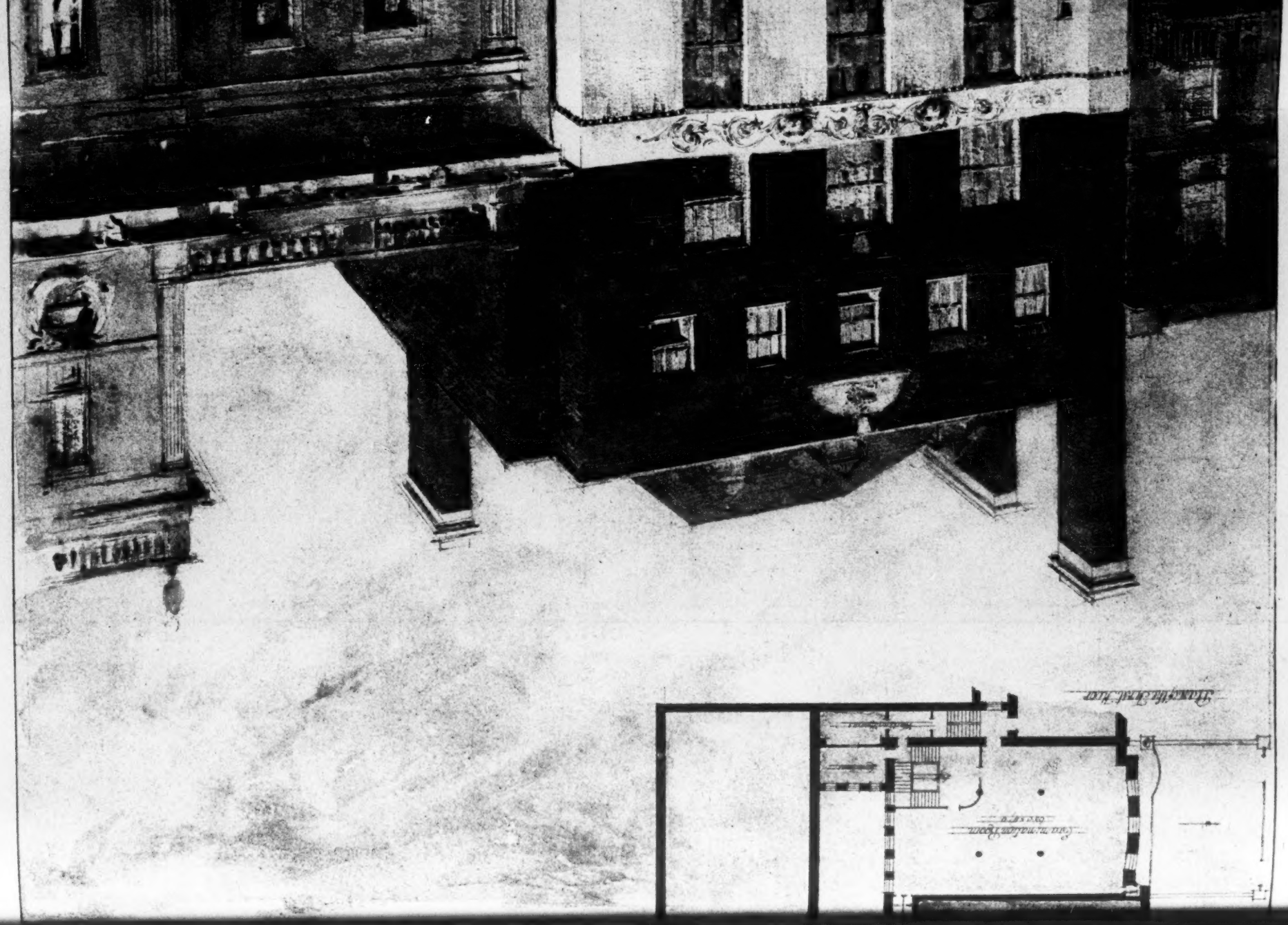
lodge has been erected by the Council of the Birmingham Girls' Friendly Society on a site at the corner of Church-street and Great Charles-street. The new premises have accommodation for sixty boarders. The architects of the building were Messrs. Osborn, Pemberton, & White.



No. 28 MARGARET STREET.—Mr. John Belcher, A.R.A., Architect.



EXTENSION OF PREMISES: ROYAL COLLEGE OF SURGEONS, LINCOLN'S INN FIELDS—Mr. Eustace C. Frere, A.R.I.B.A., Architect

APPLICATIONS UNDER THE LONDON BUILDING ACTS, 1894 TO 1908.

THE London County Council at their meeting on Tuesday dealt with the following applications under the London Building Acts, 1894 to 1908. The names of applicants are given between parentheses:—

Lines of Frontage and Projections.

Hammersmith.—An illuminated sign in front of the Hammersmith station of the Metropolitan District Railway Company, the Broadway, Hammersmith (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

Hammersmith.—Wooden bay windows, porches, and barge-boards to twenty houses on the southern side of Wendell-road, Hammersmith, between Rylett-crescent and Hartswood-road, and three houses on the western side of Rylett-crescent (Mr. F. E. Rosser for Mr. W. Binfield).—Consent.

Hampstead.—An iron and glass illuminated sign at No. 224, High-road, Kilburn (Messrs. R. Segar & Co.).—Consent.

Kensington, South.—An illuminated sign at the Knightsbridge Tube Railway station, Basil-street, Chelsea (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

Kensington, South.—An illuminated sign at the Brompton-road Tube Railway station, Brompton-road, Kensington (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

Kensington, South.—Bay windows at Nos. 11, 13, and 15, Bedford-gardens, Kensington (Messrs. E. & H. Harris).—Consent.

Kensington, South.—A covered way at No. 34, Holland-park, Kensington (Messrs. Kinnimont & Sons for Sir Israel Hart, J.P.).—Consent.

Lewisham.—Porches and barge-boards to twelve houses on the western side of Cranston-road, Forest-hill (Mr. A. R. Westworth for Mr. S. C. Kirby).—Consent.

Norwood.—Deviation from the plans approved for the erection of projecting porches, bay windows, oriel windows, and barge-boards to six houses on the northern side of Dumbarton-road, Brixton, so far as relates to the construction of the frames of the first floor bay windows in deal in lieu of oak (Messrs. Still, Wheat, & Lukes).—Consent.

Norwood.—That the application of Messrs. E. l'Anson & Son for an extension of the periods within which the erection of buildings on the northern side of Canterbury-grove, Norwood, was required to be completed, be granted.—Consent.

St. Pancras, South.—Two illuminated signs at the Warren-street Tube Railway station, Warren-street and Euston-road, St. Pancras (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

St. Pancras, South.—An illuminated sign at the Goodge-street Tube Railway station, Tottenham Court-road, St. Pancras (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

St. Pancras.—An illuminated sign at the South Kentish Town Tube Railway station, Kentish Town-road, St. Pancras (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

St. Pancras.—An illuminated sign at the Kentish Town Tube Railway station, Kentish Town-road, St. Pancras (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

St. Pancras.—Two illuminated signs at the Camden Town Tube Railway station, High-street and Kentish Town-road, St. Pancras (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

St. Pancras.—An illuminated sign at the Russell-square Tube Railway station, Bernard-street, St. Pancras (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

St. Pancras, West.—An illuminated sign at the Mornington-crescent Tube Railway station Hampstead-road, St. Pancras (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

St. Pancras, West.—An illuminated sign at the Drummond-street Tube Railway station, Drummond-street, St. Pancras (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

St. George, Hanover-square.—An illuminated sign at the Down-street Tube Railway station, Down-street, St. George, Hanover-square (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

St. George, Hanover-square.—An illuminated sign at the Dover-street Tube Railway station, Dover-street, Piccadilly (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

St. George, Hanover-square.—An illuminated sign at the Hyde Park-corner Tube Railway station, Knightsbridge-road, Hyde Park (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

Southwark, West.—An illuminated sign at the Elephant and Castle Tube Railway station, London-road, Southwark (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

Strand.—Two illuminated signs at the Strand Tube Railway station, Surrey-street and Strand (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

Strand.—Two illuminated signs at the Leicester-square Tube Railway station, Cranbourne-street and Charing Cross-road, Westminster (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

Strand.—Two illuminated signs at the Covent Garden Tube Railway station, Long-acre and James-street, Strand (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

Strand.—Three illuminated signs at the Piccadilly Tube Railway station, Piccadilly-circus, Haymarket, and Jermyn-street (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

Strand.—An illuminated sign at the Oxford-circus Tube Railway station, on the southern side of Oxford-street, abutting also upon Argyle-street, Strand (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

Wandsworth.—A lodge at the entrance to the house known as "Gayton Lodge," Park-side, Wimbledon-common (Maple & Co., Ltd., for Mr. T. F. Agar).—Consent.

Wandsworth.—Bay windows and porches in front of twelve houses to be erected on the north-eastern side of Fircroft-road, Tooting (Mr. E. Evans for Mr. D. F. Copley).—Consent.

Woolwich.—A steel and iron building of a temporary character on the southern side of Green-lane, North Woolwich (Mr. B. Dawson for the Western Electric Company).—Consent.

Kensington, South.—A greenhouse at the rear of No. 3, Campden Hill-place, Kensington, to abut upon Campden Hill-gardens (Messrs. Wheeler Brothers for Mr. A. Underhill).—Refused.

Wandsworth.†—Shops at Nos. 45 and 46, Rostella-road, Wandsworth, to abut also upon the north-eastern side of Thurso-street (Mr. F. G. B. Crawley for Mr. W. Newman).—Refused.

Width of Way.

Bethnal Green.†—Buildings upon a site abutting upon Cambridge-circus, Minerva-street, Centre-street, and Felix-street, Bethnal Green (Mr. W. E. Wallis for the Governors of the Peabody Donation Fund).—Consent.

Peckham.—Buildings on the southern side of Atwell-street, Peckham (Mr. A. E. Mullins for Mr. W. Monks).—Consent.

Width of Way, Lines of Frontage, and Projections.

Strand.—A projecting sign at Milford House, Milford-lane, Strand (Mr. W. Laughton for the proprietors of the *Daily Graphic*).—Consent.

Westminster.—An iron and glass verandah over the portico of No. 29, Princes-gardens, Knightsbridge (G. Trollope & Sons and Colls & Sons, Ltd., for Mrs. Ainsworth).—Consent.

Width of Way and Space at Rear.

Hampstead.—A building upon the site of Nos. 22 and 23, New-end, Hampstead, and the erection of a building at the rear (Mr. J. D. Hunter for Miss H. S. Creed).—Consent.

Lines of Frontage and Construction.

Islington, North.—The retention of a show-case at No. 249, Seven Sisters-road, Islington (Mr. J. Wesley-Morgan).—Consent.

Paddington.—The retention of a building of a temporary character in front of No. 9, Southwick-crescent, Paddington (Messrs. Wimperis & Best for Lord Hugh Grosvenor).—Consent.

Line of Frontage, Width of Way, Deviation from Certified Plan and Projections.

St. George, Hanover-square.†—A building on the northern side of Hanover-square, Westminster, to abut also upon the eastern side of Harewood-place, with oriel windows, balconies, and bay windows (Mr. G. D. Martin).—Consent.

Formation of Streets.

Hackney, North.—That an order be issued to Mr. H. B. Michell sanctioning the formation or laying out of two new streets for carriage traffic to lead from Spring-hill to Craven-walk, Clapton-common (the British Land Company, Ltd.).—Consent.

Hackney, North.†—That an order be issued to Mr. J. Ellwood, sanctioning the formation or laying out of three new streets for carriage traffic on the Craven Park Estate, Clapton (Mr. D. S. Barclay).—Consent.

Alteration of Building.

Strand.—Formation of an opening between the Regent-street entrance of the Piccadilly Hotel and the adjoining shop to the westward (Messrs. W. Woodward & Sons for the Piccadilly Hotel Company).—Consent.

Uniting of Buildings.

City of London.—The formation of an opening at the first-floor level, between Nos. 37 and 38, Lombard-street, City (Mr. P. K. Allen for Allen & Hanbury, Ltd.).—Consent.

Southwark, West.—The uniting of blocks 4, 6, 7, and 8, Southwark Bridge-buildings, Southwark Bridge-road, Southwark (Messrs. Collcutt & Hamp for Messrs. Liebig & Co.).—Consent.

Southwark, West.—An iron sliding door on one side and a door constructed of ¾-in. boarding and silicate cotton on the other side of an opening in a division wall at the premises of Barclay, Perkins, & Co., Ltd., Park-street, Southwark, in lieu of double iron doors (Mr. F. G. Newnham).—Refused.

The recommendations marked † are contrary to the views of the local authorities concerned.

Legal Column.

THE SMALL HOLDINGS AND ALLOTMENTS ACT.

Mr. J. F. McIlwraith has prepared a useful Memorandum for the guidance of surveyors in connexion with the duties which will be imposed upon them under the Small Holdings and Allotments Act, 1908, which will come into force on January 1 next, duties which, Mr. McIlwraith observes, the examinations of the Surveyors' Institution have now been so extended as to render the surveyors more capable of performing. The Act is one of considerable complication, extending to sixty-two sections without the Schedules.

The Memorandum is not only explanatory, but contains one or two critical observations of some weight, as, for instance, on sect. 5, under which, where objections to a scheme are raised, the appearance of the landowner, the person directly interested, is made dependent on the discretion of the person holding the inquiry. Again, commenting on sect. 39, which gives to the local authority after the question of compensation has been settled a *locus pœnitentiæ* within six weeks to withdraw the notices to treat, the writer justly observes that abortive schemes of this nature are likely to be of frequent occurrence and to cause landowners considerable inconvenience, but that they can be averted to a certain extent by a capable surveyor. Again, the writer makes a pertinent observation in pointing out that the surveyors must possess such a knowledge of the development of rural estates as will enable them to advise on the acquisition of suitable land, but avoiding detriment to land not acquired.

Whilst dealing with the subject matter of this Act we may point out that it precludes counsel or expert witnesses being heard without the leave of the Borad on arbitrations to determine the compensation to be paid for land acquired compulsorily, and that a similar provision is inserted in the Housing and Town Planning Bill now before Parliament. Seeing the issues that may be involved, this provision seems most unfair, especially as the Board may be represented by a legal adviser who may be counsel. The Bar Committee are moving in the matter and are representing the injustice that may result. The total exclusion of expert evidence where questions of value are raised seems unjustifiable, although it might be desirable to limit their number to one on each side.

UNEMPLOYED WORKMEN AND WORKMEN'S COMPENSATION.

The case of Porton *v.* the Central (Unemployed) Body for London has raised a question of considerable importance to bodies connected with unemployment. The Court of Appeal have held that the Central Body appointed under the provisions of the Unemployed Workmen Act, 1905, is an "employer" under the Workmen's Compensation Act, 1906, and that this body is

liable to pay 100*l.* to the widow of a man who was killed whilst engaged upon work given him by the Central Unemployed Body.

This certainly seems an extraordinary result of recent legislation. Under the Unemployed Workmen Act the distress committees can recommend cases which they consider can more satisfactorily be dealt with under that Act than under the Poor Law to the Central Body, and this body, if they think fit, can provide or contribute towards the provision of temporary work in such a manner as they may think best calculated to put a man in a position to obtain regular work, and the funds at the disposal of the Central Body are formed in part from voluntary contributions, in part from a limited rate. The case is very shortly reported, and appears to have turned solely on the question whether the man was employed under a contract of employment. The man appears to have been employed for a considerable time, but as the Central Body has only a statutory power to provide "temporary work," it would appear that a man so employed should be deemed to be casually employed, or to use the words of the Workmen's Compensation Act, a man "whose employment is of a casual nature," in which case, as the employment would not be for the purposes of the employer's trade or business, he would be excluded from obtaining compensation. It is certainly a startling proposition that men employed for their own good and paid out of charitable contributions, at any rate in part, should be enabled as of right to claim compensation.

WORKMEN'S COMPENSATION—OPERATIONS ON WORKMEN.

A most important decision to all employers of labour has been given by the Court of Appeal in the case of Warncken *v.* Richard Moreland & Son, Ltd. Hitherto, owing to a decision, Rothwell *v.* Davies, delivered in 1903, arbitrators under the Workmen's Compensation Act have considered it impossible to order weekly payments to cease unless an injured workmen will undergo an operation, the difficulty being that, even if the operation be a slight one, there must always be some risk in taking an anæsthetic. In the case now decided a workman had received an injury to his foot, owing to two stanchions having fallen upon it, on July 18, 1907. The man had to have his second toe and part of the big toe removed, but he continued to suffer pain, as it was discovered, owing to the existence of a piece of loose bone in the great toe. Compensation was paid him until January, 1908, when the payments were suspended, and the workman demanded an arbitration. Subsequently the payments were made up to May 4, and they were to be further continued, provided that the workman submitted himself to his own doctor and one appointed by the employers, and that incapacity should continue, even if he followed the doctors' advice. Both doctors advised an operation, but the man refused to submit to it, and the matter went to arbitration. The County Court judge, on the medical evidence, found that the man was thirty years of age and in good health, and that the operation would involve a risk hardly appreciable, and was one which in his own interest he ought to submit to, but, feeling himself bound by the case Rothwell *v.* Davies, the arbitrator continued the weekly payments.

The Court of Appeal, without saying that a man could be ordered to undergo an operation, laid it down to be a question of fact for the arbitrator to determine whether the continuing incapacity was due to the original accident or to the man's refusal or unwillingness to take reasonable means of getting rid of it, in which latter event, of course, compensation could be suspended. This case was distinguishable from Rothwell *v.* Davies since in that case the medical evidence was that there would be considerable risk attending the operation. The present decision brings the law in line with a decision given in Scotland.

NEW STREETS.

A case before one of the Metropolitan magistrates may be usefully referred to as some misapprehension appears to exist on the point raised. A householder was summoned in respect of an apportionment made upon him for making up a portion of a street declared to be a new street under the Metropolis Management Act, 1855. He resisted the claim, urging that the street could not be "new" as the houses were built fifty years ago. This was admitted, but it was proved that the street was new since the passing of the Act, and that it had never been made up, and the magistrate made an order for the amount, whilst expressing sympathy with the defendant. It has been held (see Clerkenwell Vestry *v.* Edmondson & Son, 1902) that whether a street has become a "new street" and when it so became a street is a question of fact, but the present case emphasises the necessity of house-buyers ascertaining this fact before entering into a purchase. Where portions have been added to existing streets considerable difficulty is experienced in determining this question.

Competition News.

BATHS, BAKEWELL.

A meeting of Bakewell Urban District Council was held on the 2nd inst., when the minutes of the meeting of the Council in Committee explained the methods by which the competitive designs for the proposed baths and pump-room were examined. Ultimately the designs selected were found to have been submitted by Messrs. Bryden & Walton, of Buxton. The estimated cost of the work is 3,000*l.*

GLAMORGAN COUNTY HALL AND OFFICES.

In this competition the assessor, Mr. W. D. Caröe, has placed first the design of Messrs. E. Vincent Harris & T. A. Moodie, of 8, New-square, Lincoln's Inn. The second premium has been awarded to Messrs. Pearson & Milburn, 27, Chancery-lane; and the third to Mr. H. T. Hare, F.R.I.B.A., of 13, Hart-street, Bloomsbury. The winning design shows an open court in the centre, part of which is occupied by the Council-chamber; round the sides of this court are ranged the offices, to which access is given by a corridor running round on the inner side. The main elevation possesses a large Corinthian order extending the whole height of the building, whose entablature runs round the other three sides. The cost is stated as approximately 45,000*l.*

METROPOLITAN WATER BOARD.

AT the fortnightly sitting of the Metropolitan Water Board on Friday last week, the following, amongst other matters, were dealt with:—

Contractors' Claims.—The Works and Stores Committee submitted a lengthy report on the position occupied by the Board toward Messrs. Thomas Docwra & Son in respect of work done. The claims of the contractors included 10,590*l.* for pumping at Selhurst well, and 12,162*l.* for well work at Selhurst. The Committee reported that two small items of the claim were statute barred, but in view of the fact that the accounts were rendered as long ago as February, 1899, and December, 1902, and the Board were enjoying the advantages accruing from the works charged for, they recommended their payment. Beyond stating that the delay in bringing forward the accounts was highly unsatisfactory, the Committee said they were not aware of any reason why the Board should withhold payment, and they recommended accordingly.—After considerable discussion, it was agreed to remit the matter to the Law and Parliamentary Committee.

Honor Oak Reservoirs.—The same Committee reported that they were informed by the deputy engineer that the total cost of the completed work of the Honor Oak reservoirs would exceed the original estimate by 18,000*l.*, and they asked for a supplemental vote of 25,426*l.* 9s. 7d.—After discussion it was agreed to approve of capital expenditure to the extent of 7,000*l.*, leaving the remainder to stand over for further consideration.

Correspondence.

THE METRIC SYSTEM.

SIR,—Referring to the letter appearing in yours of November 28 under this heading, may I respectfully point out that the "special committee" of the American Society of Civil Engineers which the writer referred to was a committee of two men, and that the real test of the feeling of the members of this Society will only be known after their annual meeting, which I understand is to take place in January. May I further point out that in an interview I had with the Panama Canal Commissioners at Washington I was informed that the first steps taken by the U.S.A. authorities in taking over the construction of the canal was to convert all the metric drawings into Anglo-American dimensions.

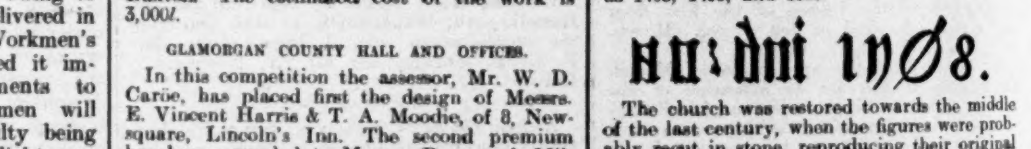
As regards Russia, I trust that your readers will not be misled by the unsupported statement that "in a few years her enormous population will be using the metric system." There is no authority whatever for such a statement. It may interest you to know that in the thirties of last century Russia altered her measures of length so as to make them commensurable with Anglo-American measures. Her "dium" is our inch exactly, her "foot" is our foot, and her "verst" is 3,500 ft.

It is somewhat striking that the three countries which stand out most prominently against the metric system are three of the greatest, *i.e.*, the British Empire, the United States, and the Russian Empire. It is surely something more than a coincidence that these three countries use the same "inch" measure, and it is interesting in this respect to remember that no country using this inch has given it up for the metre.

GEORGE MOORES, Secretary,
British Weights and Measures Association.

INSCRIPTIONS ON ST. MARY MAGDALEN'S CHURCH, TAUNTON.

SIR,—On the south porch of St. Mary Magdalen's Church, Taunton, is cut a date in the following form, which has been variously read as 1408, 1498, and 1508.



The church was restored towards the middle of the last century, when the figures were probably recut in stone, reproducing their original shape.

I enclose a tracing of them taken from a description of the restoration by the Vicar, Dr. Cottle, in 1845. The most probable interpretation seems to be 1498, but it is objected that the third figure is 0, not 9.

In the neighbouring parish of Trull there is the date 156ϕ cut in wood within the church. No doubt the fourth figure in the latter date is the same as the third figure in the former. I should be glad if you or any of your readers could decide this point.

There is also another, as yet unsettled, point. Upon the transoms of the belfry windows on the south side of the tower of the same church (St. Mary Magdalen's), which was rebuilt some years after the restoration referred to, are carved upon four shields, one letter upon a shield, R. B. A. S. In a print of the tower dated 1806 these four letters are shown, and they have been reproduced in the new tower.

In the same print is also shown, on the west front, in a corresponding position on the window nearest to the south (there are two windows on each face of the tower), a scroll without any inscription in 1806, but which may have had one originally, while the adjoining west window is drawn without a scroll, which arrangement has not been followed in the new tower.

The original arrangement seems to suggest that this single scroll was placed there for a definite purpose, perhaps to receive an inscription, which might have been commenced on the west side and continued on the south side of the tower.

Various suggestions have been made as to the meaning of these four letters, and the latest is that as the tower was built in Henry VIIth's reign, and other traces can be seen of his connexion with this district, the inscription may refer to him also, and might have been originally somewhat as follows.—HENRIC. VII. D.G., ANG. & FR. on the scroll, preceding the letters R. B. A. S. on the shields, which may be expanded to REX BEATUS. ALTERA SECURITAS, the two last words being a motto, according to Burke, added by the King to one of the royal badges, a portcullis, and may therefore refer to the safety assured to either house by the union in his person of the two houses of York and

Lancaster. As all the above words are found on coins and elsewhere in connexion with Henry VII., excepting, perhaps, "beatus," can any of your readers give an instance in which that word is used in a formal inscription referring to that King?

J. HOUGHTON SPENCER

RE MOSCOW-COURT, BAYSWATER.

SIR,—We refrain from comment on this matter, as there is still a higher court available for finally settling a very important and far-reaching case, but we will thank you to publish the following explanatory facts, viz.:—

(1) This building having been designed and planned by us upon the interpretation hitherto put upon the clauses affected, and following on the lines of other buildings accepted by other District Surveyors as being in accordance with the Act, we considered no special application was necessary, submitting our plans in the usual course to the District Surveyor.

(2) Before the building was up, the County Council, after special survey, expressed themselves satisfied that the proposed building was so in accordance.

(3) The adjoining owner inspected the drawings of the proposed building before operations commenced, making no demur, his first objection being an intimation to the contractors when the building was partly roofed.

METCALF & GREIG.

HOUSING AND TOWN PLANNING BILL.

THE final sitting of the Committee which has been considering the Housing and Town Planning Bill took place on Thursday last week.

Mr. Guinness proposed a new clause to the effect that all draft provisions relating to town planning schemes should be laid before each House of Parliament for a period of not less than forty days during the session of Parliament.

Mr. Burns declined to accept that amendment on the ground that it would cause both delay and expense, but said it was proposed to adopt the method set forth in the Regulation of Foods Act, 1907, which laid down "That all regulations shall be laid as soon as may be before Parliament, and the Royal Publication Act, 1893, shall apply to such regulations as if they were statutory rules within the meaning of the Act." In all regulations issued under town planning schemes they considered promptitude was to a great extent the essence of their method of procedure.

The amendment was rejected.

Mr. Guinness moved to insert a clause to the effect that sect. 133 of the Lands Clauses Consolidation Act relating to land tax and poor rate shall not apply in the case of any lands of which a local authority becomes possessed by virtue of the Housing Acts. He argued that in the cases of street improvements the local authority was not called upon to make up the land tax and the poor rate, and consequently they ought to be exempt in the case of schemes under the Bill.

Mr. Hobhouse (Financial Secretary to the Treasury) expressed sympathy with the amendment, and promised that if possible a clause would be inserted on the report stage.

The Chairman pointed out that this would be out of order, and as the result of further discussion it was agreed to insert the clause subject to it being taken out later on if the Treasury could not agree.

Considerable discussion took place on an amendment by Mr. Guinness to exempt lodging-houses under Part III. of the principal Act from Inhabited House Duty provided that the charge for the tenancy did not exceed 1s. per day in respect of each person.

Mr. Hobhouse, while refusing to accept the amendment, substituted other words exempting such houses where the charge was not more than 6d. a night.

Mr. Guinness moved as a new clause:—"Any local authority in connexion with the exercise by them of their powers under Part III. of the principal Act may with the consent of the Local Government Board, and subject to such conditions (if any) as the Board may impose on giving their consent, dispense with any obligation of the local authority or any other person to comply with any statutory enactment, by-law, regulation, or other provision, under whatever authority made, which is in operation in the area in which the local authority are exercising any of their powers under Part III. of the principal Act."

Mr. Masterman, on behalf of the Government, opposed the amendment, and said there was no reason why any suburb should not come under a town planning scheme, and if that was done everything which the new clause provided for was done. There was no reason why the Tottenham building scheme of the London County Council should not be made a town planning scheme.

Sir J. Dickson Poynder thought it was rather late in the day for the Government to talk about breaking down existing enactments, for the whole of this Act drove a coach and four through the existing Acts relating to building. He admitted he had been a party to building schemes of the London County Council, but he now looked with regret at the way masses of houses had been piled on these estates. Consequently they all hoped there would be a limitation of the number of houses to Part III. schemes.

Mr. Masterman pointed out that under Part III. schemes the Bill did not propose to break down statutory enactments. It did in regard to town planning schemes, and therefore such schemes as the hon. member had in mind could be brought up under that portion of the Bill.

The amendment was rejected on a division.

The following new clause by Mr. Dickinson was accepted:—"Notwithstanding anything contained in the principal Act, it shall not be obligatory upon a local authority to sell and dispose of any lands or dwellings acquired or constructed by it for any of the purposes of the Housing Acts."

Mr. McArthur proposed the following clause:—"For the purposes of Part I. of this Act, any lands acquired by any Corporation or company for the purposes of a railway, dock, canal, water, or other public undertaking shall be exempt from the operation of this Act."

Mr. Masterman argued that as the Committee had decided not to allow any such exemption in the case of Part III. of the Act, which was a large and important part, it would be absurd to allow it in the case of Part I.

The amendment was defeated.

Mr. Cowen moved:—"That any part of a house habitually used as a sleeping-house shall throughout sect. 13 of this Act be held to be a dwelling-house.

Mr. Burns, while not accepting the clause, promised to try to deal with the question when the report stage was reached.

On this undertaking the amendment was withdrawn.

A long clause was moved by Sir J. Dickson Poynder, giving the County Council power to deal with public health and housing matters where the district council was in default.

Mr. Burns sympathised with the object of the mover, but thought the clause did not go far enough. The Local Government Board intended under their regulations to give full scope to what was moved, and also to give power to the Local Government Board to act where both the district council and the county council were in default.

The amendment was withdrawn.

On Schedule II., which sets out the matters to be dealt with by general provisions prescribed by the Local Government Board, Mr. Wedgwood proposed that "Transport by rail or tram" should be inserted as one of such matters.

Mr. Burns said if tramways and rails, why not motor 'buses and aeroplanes. George Bernard Shaw suggested the other day that all hill-tops should be sheduled for aeroplanes.

The amendment was rejected.

Mr. Guinness moved that "Buildings, structures, and erections" be struck out of the schedule. Unless that was done, he thought building would be very considerably hampered. The power to local authorities to prescribe the elevation and design and so on of houses might result in a city being made hideous, for public taste was not always superior to private taste. When one went to Germany and saw the freakish buildings put up, one was alarmed at the municipal architect being able to prescribe for all the future buildings in a town.

Mr. Burns said he would not enter on the question of municipal or private taste, and the object of the Bill was not to give opportunities for freakish municipal architecture. What they did seek to do was to prevent in town planning schemes in the future abominations like Hankeys Mansions, or he might add the architectural freak at the corner of Park-lane with green and white stripes. Had the County Council had power to prevent that it would have met with the approval of every private owner whose property had been considerably worsened by the proximity of that particular freak. They wanted to prevent the freaks of architecture which were seen in a flagrant form in Fifth-avenue, New York, where one saw a Chinaman's shanty adjoining a splendid building put up by a modern architect. He thought that of recent years the county councils and borough councils and the Office of Works deserved great credit for the way in which they had been able to discriminate between beautiful and useful buildings and the buildings they used to have forty or fifty years ago.

Viscount Morpeth considered that it was a serious matter to allow local authorities to say what the elevation and designs of buildings should be. Some years ago they saw the London County Council proposing to pull down the two churches in the Strand.

Mr. Burns: It was the County Council which, on my motion, retained those two beautiful churches.

The amendment was defeated.

An amendment by Mr. Morrell to add "And the preservation of objects of historical interest or natural beauty" to the schedule was accepted.

On the third schedule, which deals with the procedure to be adopted on making an application for a town planning scheme, Mr. Morrell proposed to insert as the first condition a preliminary local inquiry. He said that this was a matter to which the Royal Institute of British Architects attached great importance. He was present at a meeting of the Council of that society, when Sir Aston Webb and others emphasised very strongly the necessity of having a local inquiry at the earliest possible stage, and Mr. Burns, in his speech on the second reading, held out great hopes to those gentlemen. He thought they ought to meet these gentlemen in the way which, according to their views, they thought would be most useful, and they said it would be little use them coming in later under subsect. 2 (*c*) when a scheme had already been prepared and sent to the Local Government Board, when all kinds of material interests had been raised, and things had become cut and dried. Everyone agreed that the danger of town planning was jobbery, and that local authorities might favour certain landowners, and the way to prevent this was to have early publicity.

Mr. Vivian pointed out that it would be an enormous waste of time after a scheme was modelled to ask experts then to come in.

Viscount Morpeth pointed out the recent example in Rome, where an outside engineer had brought in an improvement scheme and had had no regard to the archæological and historic interests.

Mr. Burns said they had only one object in view, which was to attain their ends by the best method, and the Government proposed to amend the schedule that a scheme should not be approved before hearing objections and representations by persons affected, "and by persons representing architectural and archæological societies, or otherwise interested in the amenity of the proposed scheme." He thought that conceded everything that the hon. gentleman had the right to ask. For the last year he had been seeing these distinguished people. Sir Aston Webb had been quoted, but when Sir Aston Webb and other gentlemen saw him Sir Aston Webb said that all they wanted was that the Royal Institute of British Architects should be recognised as a person affected. That was carried out by what he proposed. When a local authority made an application for a town planning scheme, then would be the time for the societies interested to get into touch with the local authority, and this the architects and artists now did with the London County Council with regard to building sites and so forth. He assured the Committee that in the carrying out of town planning schemes the architectural and other societies of repute would have all the powers of representation which they sought to obtain.

Mr. Morrell said the Royal Institute of British Architects was entirely in favour of the amendment he had moved. He attended their Council meeting on the matter the previous week, and had a letter from them asking him to move it.

Mr. Dickinson hoped the President of the Local Government Board would stick to his guns, for he objected to local authorities being interfered with by such societies at the very first. He ventured to say that on several occasions these societies had very much impeded the action of the London County Council.

Mr. Taylor said in all the talk about the impartiality and disinterestedness of architects they had their own interests to consider as much as anyone else, and he objected on behalf of the local authorities to any interference. It was quite competent for the local authorities to engage their own experts.

Mr. Burns said no Minister of the Crown had ever given these societies the status which he had done by inserting the words.

The amendment was defeated, but the words proposed by Mr. Burns were inserted, and the wording of the schedule was further altered so that such representations could be made "on and during the preparation and before the approval of the scheme."

A number of further amendments, principally of a drafting character, were agreed to, and an amendment by Mr. Gill, limiting the amount of compensation for land taken to twenty-five years' purchase, was defeated.

On the motion of Mr. Vivian, the following

was agreed to as an additional schedule:—"A 'public utility society' shall, for the purposes of this Act, be a society registered under the Industrial and Provident Societies Act, 1893, or any amendment thereof, and the rules of a public utility society shall provide for the limitation of dividend or interest on the capital of the society to an average rate not exceeding 5*l*. per cent. per annum."

The Bill was ordered to be reported to the House as amended.

LONDON BOROUGH COUNCILS.

Battersea.—The footpath in Queen's-road is to be repaved at a cost of 200*l*., and the roadway in Leathwaite-road is to be repaired with granite macadam at an estimated cost of 488*l*. The Electrical Trades Union suggested the substitution of electric light for gas in all the Council's depôts. The consideration of the matter has been adjourned until the annual estimates come before the committees.

Camberwell.—A sub-committee have been revising the form at present in use for annual contracts, and have decided, *inter alia*, that in future no old asphalt be used, and that all old asphalt taken up by the contractor shall be removed to the depôts in the Council's carts. The Honor Oak and Forest Hill Golf Club are applying for an extension of their present lease, and they guarantee that if same be granted they will make considerable improvements to the grounds. The Public Health Committee, which purchased the land some time ago for a cemetery, has the matter under consideration. The National Association of Operative Plasterers have written to the Borough Council with reference to the work at the new cottages in course of erection in Pitman-street. The Amalgamated Society of Carpenters and Joiners also wrote upon the same subject. These bodies are to be informed that the erection of the premises has been left entirely in the hands of the Borough Engineer, with power to sublet any portion of the work he considers necessary to enable him to keep within his estimate.

Chelsea.—The Borough Surveyor has reported on the "Durax" paving laid in a section of the roadway of the Chelsea-embankment in August, 1907. He stated that although he was not satisfied as to the pavement being noiseless, it had worn fairly well. Under the present arrangements with the Company the Borough Council must either accept the pavement as entirely satisfactory and pay 385*l*., or make the Company take it up and relay with macadam. In his opinion the former course was hard on the Council, and the latter hard on the Company, as the paving was not entirely satisfactory, though it appeared to form a paving which was suitable for the particular locality in which it was placed, but was not, in his opinion, a suitable substitute for macadam in residential neighbourhoods. He suggested that the Company should be asked to allow the trial period to be extended for a further period of eighteen months. This was agreed to. Applications are to be invited for the position of clerk of works, at a salary of 4*l*. 4s. a week, in connexion with the proposed working-class dwellings on the Grove Cottages site.

Fulham.—Mr. Wm. Edgar is to carry out the conversion of the whole of the 32-candle-power carbon filament lamps in the borough to 200-volt 75-candle-power Osram lamps at a cost of 163*l*.

Hampstead.—Arrangements are being made for the opening ceremony in connexion with the extension buildings at the Central Public Library, which will be ready for use early in January. Negotiations are to be reopened for the acquisition of land necessary for the completion of the roadway from Church-road to Frognal. The Hampstead Heath Protection Society and the Metropolitan Public Gardens Association are to be invited to submit suggestions for dealing with the footways of the Spaniards-road.

Holborn.—In July last it was reported to the Borough Council that certain courts in the Italian colony area had been closed by the owners of adjoining premises, and with a view to the preservation of the public rights therein the Borough Surveyor was instructed to reopen the courts and to fix boundary posts defining the public way. In due course this was done, but the Works and General Purposes Committee, in a report issued on Monday, state that they had been informed that the freeholders (the Chandos Land and Building Society) had since reinstated the hoardings and removed the boundary posts. The Committee have instructed the Borough Surveyor to take no further action at present, and have referred the matter to the Law and Parliamentary Committee for consideration.

Islington.—The flint portion of the carriageway of Kelvin-road is to be repaired with macadam, the material for which is estimated to cost 143*l*. A new 9-in. pipe stoneware sewer is to be laid at the rear of Roman-road at an estimated cost of 290*l*. Notice and plans were received from the London County Council at the meeting of the Borough Council on Friday with respect to the Bill they intend to introduce next session for the purchase of Highgate-hill tramways, and to enable them to widen Highgate-hill by Hornsey-lane. The Spring-garden authority is to be urged to widen Holloway-road between Highbury Corner and Fieldway-crescent, the work to be carried out as a metropolitan improvement.

Kensington.—Five tenders were received for the reconstruction of sewers in Brompton-square, and the lowest, that of Messrs. John Mowlem & Co., at 756*l*., has been accepted.

Southwark.—The Medical Officer of Health (Dr. Millson) and the Borough Engineer (Mr. A. Harrison) have had under consideration matters in connexion with the appointment of a Departmental Committee on the subject of intercepting traps in house drains. The officers named have arrived at the following conclusions:—(1) That at the present time the sewage passing along the main sewer trunks is generally in a more or less decomposed condition and foul smelling. This, in our opinion, is due to the retention of sewage by defective house drains and defective minor sewers. (2) We do not think that the sewage will ever be discharged along the main sewers in such a fresh condition as to prevent the effects of decomposition. In other words, we think there will always be in the natural course of things a certain number of defective drains and sewers. (3) We are of opinion that the intercepting trap is not a source of danger, and does not retard the drainage until it has decomposed, as we know that an amount of 296 gallons of water per house is discharged through this trap in the course of the day. An examination of these traps will support what we contend, that where the house drains are in a good condition the contents of the intercepting trap are not decomposed and foul smelling. (4) We are further of opinion that to prescribe ventilating pipes discharging their foul effluvia from the main sewers near to dwelling-houses is not sanitary. (5) The air of an intercepted and well-ventilated drain is free from effluvia, whilst without an interceptor the house drain would be charged with offensive sewer air which would come into contact with the water seal of the closet inside the house, and the water would become impregnated and a danger to health. (6) Again we think that the withdrawal of intercepting traps and the inspection-chamber—which would have to go with them—would prevent us in cases of fever in the house from being able to properly examine and test the drain as we should be able to do if those existed. (7) During the last ten years 75 per cent. of the house drains in this borough have been reconstructed and intercepted, a large portion of these not having been intercepted before. The death rate of the borough has decreased from 25 to 18 per 1,000 in the same period. We do not wish to say that the whole of this is due to the reconstruction of the drainage, but we think it has had considerable effect upon it. (8) An objection is at times made that intercepting traps are the cause of stoppages in drainage systems. We can emphatically say that there is no greater proportion of stoppages in intercepted drains than in those not intercepted, and if the intercepted drain is also provided with an inspection-chamber it is much more easily cleared than an unintercepted drain without the inspection-chamber. In conclusion, the Medical Officer of Health and the Borough Engineer expressed the opinion that it would be a retrograde step, certainly at the present time, to abolish intercepting traps and chambers. A copy of the report is to be sent to the Secretary of the Departmental Committee. The work of forming a gymnasium for children at the Little Dorrit's playground is approaching completion. The Finance Committee have passed estimates for the following:—(1) 7,339*l*. for street paving works, etc., 4,562*l*. of this is to be spent upon materials; (2) 2,700*l*. for the widening of East-street.

Woolwich.—Serious complaints have been received of flooding in times of heavy rainfall in Plumstead. The matter has been investigated, and it has been decided to carry out sewage work at an estimated cost of 2,100*l*. Part of Sherard-road, Eltham, is to be paved at an estimated cost of 2,672*l*. The Commons Preservation Society and the Metropolitan Public Gardens Association are to be invited to join the Council in asking Mr. Haldane to receive a joint deputation in reference to buildings proposed to be erected by the War Department on a portion of Woolwich Common. With regard to the proposed extension of the electric tramways from the present terminus at Greenwich to the Lord Howick public-house, some points of difference have arisen as to street widening between the Spring-garden authorities and the Borough Council.

PROPOSED NEW BUILDINGS, ETC., IN LONDON AND SUBURBS.

THE following is supplemental to the list of building applications to the London County Council in another column:—

Laundry at Church-path, Acton, W., for Mr. A. J. Smith, 176, Bollo Bridge-road, Acton.

Sorting-room and boiler-house, Carlyle-avenue, Harlesden, N.W. Mr. H. Shaw, architect, 60, Nicoll-road, Willesden.

Bakehouse at rear of 5, High-street, Harlesden, N.W. Mr. W. S. Cranfield, architect, 14, South-square, W.C.

Addition to 1a, Florence-terrace, Stonebridge, N.W. Mr. H. Shaw, architect, 60, Nicoll-road, Willesden.

Alterations to Stonebridge Park Laundry, Barry-road, Stonebridge, N.W. Mr. S. Catling, estate agent, Wembley-hill Station.

Proposed church hall at Cricklewood, N.W. Messrs. Hudson & Hunt, architects, 24, York-place, W.

Parish hall, Church-path, Stratford, E. Messrs. Nicholson & Corlette, architects, 2, New-square, Lincoln's-inn, W.C.

Church, Culmstock-road and Alfriston-road, Battersea, S.E. Messrs. J. S. Quilter & Son, 1 and 2, Adam-street, Adelphi, W.C.

New offices, workshops, etc., at the Gas Lighting Improvement Company's premises, Crow's-road, West Ham. Mr. J. R. Moore Smith, architect, 14, Union-court, Old Broad-street, E.C., and 96, Romford-road, Stratford, E.

New ambulance and fire-station and belt store at the premises of the India Rubber, Gutta Percha, and Telegraph Works Company, Ltd., Silvertown, E. Offices, 106, Cannon-street, E.C.

Addition to factory of the British Ultramarine Company, Sugar House-lane, Stratford, E.

New roads—Densham and Leigh roads—at West Ham. Mr. Arthur Single, estate agent, 85, The Grove, Stratford, E.

Shop, Battersea Park-road, Battersea, S.E. Mr. B. Bansgrove.

Alterations and additions at Carshalton House, Carshalton. Mr. J. Tapply, builder, "Canoblas," Salisbery-road, Sutton.

Secondary school at Harrow (16,815*l*.). Mr. H. T. Wakelam, Surveyor to the Middlesex County Council.

Isolation hospital at Southgate (5,600*l*.). Mr. C. G. Lawson, Surveyor to the Urban District Council.

Drill-hall, Park-avenue, Watford. The Commanding Officer.

Theatre at West Ham (18,000*l*.). Mr. Bertie Crewe, architect, 75, Shaftesbury-avenue, W.C.

Isolation hospital at Molesey (Surrey) (3,645*l*.). Surveyor, Molesey District Council.

Woolwich.—Addition to Messrs. W. T. Henley's Telegraph Works, Henley-road; additions to factories of Messrs. Siemens Brothers & Co., Ltd., Bowater-road, Mr. A. Sabine, Secretary.

Eltham.—Four houses, Glanlyon-road, Mr. J. J. Bassett, builder, 121, Earlshall-road, Eltham; new street from Glenlea-road to High-street, Messrs. D. Watney & Sons, surveyors, 33, Poultry, E.C.; six houses, Dumbreck-road, Mr. J. J. Bassett, builder, 121, Earlshall-road, Eltham; converting 110, High-street, into shop, Mr. T. W. Mills, care of Messrs. Whistler & Worge, surveyors, 80, High-street, Eltham.

Wimbledon.—Church, Cottenham Park, Mr. E. C. Shearman, architect "Brynelmscote," Winchester; extension of depôt, Mr. C. H. Cooper, surveyor to the Town Council; proposed town hall and municipal offices, Mr. C. H. Cooper, Surveyor to the Town Council.

Ruislip, Northwood.—Four houses, Sharps-lane, Messrs. Collins & Charles, builders, 13, High-street, Harrow; new street at Ruislip common for Messrs. Neane & Drew, Mr. G. Remington.

Structural alterations and decorations at Luttrell-avenue, on the Queen Anne's Bounty Putney Estate. Mr. Alfred E. Nightingale, architect, Putney.

BOOKS RECEIVED.

THE DOMESTIC ARCHITECTURE OF ENGLAND DURING THE TUDOR PERIOD. By Thomas Garner and Arthur Stratton. Part II. (B. T. Batsford. 42s. per Part—to Subscribers only.)

THE ART OF THE PLASTERER. By George P. Bankart. (B. T. Batsford. 25s.)

DIE AUSSTELLUNG MÜNCHEN, 1908. (Munich: F. Bruckmann.)

GEOLOGY OF THE COUNTRY NORTH AND EAST OF HARROGATE. By C. Fox-Strangways, F.G.S. (E. Stanford. 2s. 6d.)

General Building News.

NEW CHURCH, LANGSIDE, N.B.

The laying of the foundation-stone of Battlefield Church in Ledard-road, Langside, recently took place. The church will be built of red sandstone from Corsehill Quarry, Dumfriesshire. The plan of the church consists of a vestibule extending the breadth of the building, from which there are two side entrances to the area and two stairs to the galleries. The area sitting is planned with nave and two side aisles, the latter being angled to allow each sitter to face the pulpit. The pulpit, choir, etc., occupy the north end of the church. The area and choir will accommodate 514 persons, and the galleries 328. At the back of the church there will be ladies' room, vestry, choir vestry, session-house, kitchen, and retiring-room. The hall, which will accommodate 700 persons, can be divided by a sliding partition into two halls, one for 500 persons and the other for 200. The architect is Mr. H. E. Clifford, of Glasgow. The total cost of church and hall will be about 6,000*l.*

PARISH CHURCH, UPPER CLATFORD.

The old tower of this church has been restored. The work was carried out, under the supervision of Messrs. Nevison & Newton, architects, by Messrs. F. Beale & Sons, of Andover.

CHURCH RESTORATION, LONG MARSTON.

The parish church of All Saints, Long Marston, has just been reopened after restoration, and the erection of a new porch and vestry. Two years ago the church had fallen into a dangerous state through the foundations and roof having given way, causing the walls to crack and the roof to spread. The foundations have now been underpinned with cement concrete, much wider than the old foundations, and several substantial buttresses built on the south side of the nave and chancel. The contractor for the work of restoration and underpinning was the late Mr. Job Gregory, of Long Marston, and for the west end porch, vestry, etc., Mr. James Chandler, also of Long Marston. The stonework throughout was executed by Mr. James Hobbs, of Tring. The work has been carried out from the designs and under the superintendence of the architect, Mr. William Huckvale, of Tring. The amount spent on the work has been 1,500*l.*

CHURCH ENLARGEMENT, LITTLEOVER.

The church of St. Peter at Littleover has been enlarged by the addition of a new aisle. The aisle, which runs from west to east on the south side of the building, provides seating accommodation for just over one hundred people, and includes a clergy vestry, with an oak screen at the east end. The cost of the enlargement, which has been carried out on plans prepared by Messrs. Naylor & Sale, Derby, was about 2,000*l.*

ST. LAWRENCE'S CHURCH, EXETER.

The restoration has just been completed of this church. The work has been carried out by Messrs. Ham & Passmore, of Exeter, under the supervision of Mr. Harbottle Reed, of Messrs. Harbottle & Reed.

PROPOSED NEW CHURCH, PENNYCROSS.

It is proposed to erect a new church, to be known as St. Martin's, at Weston Peverell, Pennycross, and Mr. W. D. Caröe, Architect to the Ecclesiastical Commissioners, has been invited to prepare the plans.

PRIMITIVE METHODIST CHAPEL, WARWICK BRIDGE, CUMBERLAND.

A new chapel and school has been erected by the Primitive Methodist community at Warwick Bridge. The building is of brick and concrete, and has seating accommodation for 250. The designs were by Messrs. W. G. Scott & Co., Workington; and the contractors were:—Mr. Joseph Hindson, Carlisle, mason and joiner; Mr. John Hewitson, Carlisle, slater; Mr. Wilson Forster, Carlisle, plumber; Mr. R. J. Irving, Warwick Bridge, glazier and painter; and Mr. John Corbett, Carlisle, heating apparatus.

SECONDARY SCHOOL FOR GIRLS, YORK.

A new municipal secondary school for girls is in course of erection for the York Education Committee, adjoining Love-lane, Bootham. The school is planned to accommodate 400 girls, but only a portion of it is being built at present to provide accommodation for 270. The building is of the central hall type, with the classrooms grouped round it. The main block is to be two-storied in height, and projecting wings will contain the laboratories, domestic science-room, scholars' dining-room, etc. There will be twelve classrooms grouped round the hall. At each end of the buildings, and near the entrances from the playground, will be the cloakrooms, changing-rooms, lavatories, and the staircases to the upper floor. The main walls of the structure will be of brick, faced with a red sand-faced brick, made and supplied by Messrs. Wray & Son, of York. The floors are to be of concrete, finished with wood or cement as their use requires. The roofs are to be tiled, and the window sashes and cornices, etc., will be of wood painted white. The premises will be warmed throughout by low-pressure hot water, with ventilating radiators. Open fires will be provided in rooms devoted to special studies, and ventilation will be by fresh-air inlets and extract flues. The builders are Messrs. Airey & Sons, of Leeds, who, in accordance with their undertaking, are employing only York subcontractors and workmen. Mr. W. H. Brierley, F.S.A., of York, is the architect of the building.

GRAMMAR SCHOOL, HORNCASTLE.

The foundation-stone has been laid of the new grammar school which is being built at Horncastle. The new school, which is to be erected off West-street, is to cost about 4,500*l.*, including the purchase of the site and large playing fields. It is designed by Messrs. Scorer & Gamble, architects, Lincoln, and has accommodation for eighty-four boys and girls in four classrooms. There will also be a laboratory for twenty students, with a preparation-room and chemical store attached.

COUNTY SCHOOL, CLEADON.

The newly-erected school at Cleadon, for the North-eastern District Education Committee of the Durham County Council, is intended to serve the growing educational wants of the district, and will provide accommodation for 300 mixed pupils. The site has frontage to both the Whitburn and the Sunderland roads, and there is sufficient space reserved, when occasion requires, to erect another school. The new building is a one-story erection, built of red brick with simple stone dressings. The building comprises six classrooms, one of which is fitted up as a cookery-room, with kitchen range, sinks, etc. There is a central hall, 42 ft. by 25 ft., entered on either side by the boys and girls through apartments containing cloak-rooms, lavatories, book closets, and rooms for the masters and mistresses respectively. Hot water on the low-pressure system is used for the heating of the school, and the ventilation is by means of gratings in the ceilings leading to an exhaust turret in the roof, in addition to the specially-arranged ventilating windows. The floors are solid, being constructed of boards laid on concrete, and the dadoes are lined with glazed bricks in the entrance and cloakrooms, and hard and impervious plaster in the classrooms and hall. There are separate playgrounds for the boys and girls, asphalted, and with covered sheds for wet weather. The architect is Mr. J. H. Morton, of South Shields and Newcastle-on-Tyne, and Mr. H. W. Bulmer, of the Education Offices, Durham, has acted as clerk of works, the general contractor being Mr. W. Hall, of Gateshead-on-Tyne. The playgrounds have been laid in asphalt by Mr. Edwin Clarkson (East Boldon). Some of the special contractors were:—Messrs. J. Alinson & Sons (Gateshead-on-Tyne), plumbing and lighting; Messrs. Adamsez, Ltd. (Scotswood-on-Tyne), sanitary fittings; Messrs. N. F. Ramsay & Co. (Newcastle-on-Tyne), locks and door furniture; Messrs. Illingworth, Ingham, & Co. (Leeds), desks and cupboards; and Mr. James Burdon (Sunderland), painting.

CHURCH-ROOM, CHORLEYWOOD, HERTS.

A church-room has been opened in connexion with St. Andrew's. The building is timber-built on a brick foundation, and has seating accommodation for between 250 and 300. It has been erected by Mr. C. H. Fensom, of Chorleywood, from the designs of Mr. C. Richardson. The chancel is lighted by a three-light stained-glass window, which was designed, fixed, and presented by Messrs. Morris & Co., Rochester-row, S.W.

WESLEYAN MISSION HALL, HULL.

The foundation-stones were recently laid of a new mission hall which is being built in Great Thornton-street, Hull. The scheme comprises a large hall 75 ft. wide inside, with a total length of 88 ft., accommodating 1,050 people upon the ground floor, with a gallery for 800 and choir accommodation for 150, making a total of 2,000 people. Provision is also to be made for a large organ at the back of the choir gallery, with inquiry-rooms arranged at the four corners of the hall. In addition to this there will be three small lecture-rooms, each 28 ft. by 20 ft., and seven class-rooms, also minister's vestry. The frontage to Great Thornton-street is being carried out in Ruabon red bricks and Ancaster stone. Internally the whole of the staircase and corridors will be fireproof, the walls being faced with glazed bricks. The premises will be lighted upon the twin system of gas and electric light, and will also be heated throughout by low-pressure hot-water heating apparatus. The new buildings are being erected by Mr. G. H. Panton, builder, under the supervision of the architects, Messrs. Gelder & Kitchen.

PAROCHIAL HALL, SMETHWICK.

A parochial hall and institute have been opened in connexion with St. Paul's, West Smethwick, at a cost of 1,100*l.* The builder was Mr. Wm. Lees, of Oldbury-road, and the architect Mr. T. Grazebrook, of Stourbridge.

BRANCH LIBRARY, SUNDERLAND.

The foundation-stone has been laid of a West-end branch library at Sunderland. The library will be situated in Kayll-road, and is to cost 2,600*l.*, which will be brought up by fees, etc., to 3,000*l.* The architect is Mr. Hugh Hedley, and the contractor Mr. W. B. Cooper.

INFIRMARY, ALNWICK.

A new infirmary has been built in this town. It has accommodation for twelve patients, though the arrangements are such that this can be extended to provide for eighteen. The out-patients' department is distinct from the wards, with a separate entrance, and the waiting-room, dispensary, and surgery are arranged near the doctor's-room. The administration block consists of a governors' room, sitting-rooms, bedrooms, and a bathroom. The kitchen wing is arranged with a private yard closely adjoining the laundry. The building is of Denwick stone, roofed with dark red Ruabon tiles. The surface of the inside walls is of polished Adamantine, and the woodwork of figured pitch-pine. The floors of the corridors and wards are finished with polished Terrazzo composed of marble and cement. Both gas and electricity are employed for illumination of the building. The cost of the whole work is about 5,500*l.* The builders were Messrs. Elliott Brothers, of Chathill, and, as the result of an open competition, Mr. J. Wightman Douglas, of Newcastle and Alnwick, and Messrs Boyd & Groves, Newcastle, became the architects for the new institution.

ISOLATION HOSPITAL, KIRKBURTON.

The newly-erected Kirkburton Joint Isolation Hospital has been opened. The hospital consists of five blocks of buildings, namely:—(1) Administrative and discharging rooms; (2) scarlet fever pavilion, containing eighteen beds; (3) isolation block, containing six beds, making a total of twenty-four beds; (4) laundry, disinfecting-rooms, stable, ambulance-shed, and mortuary; and (5) porter's lodge. Mr. Joseph Berry, of Huddersfield, has been the architect, and the following is the list of the contractors:—Masons' work, Messrs. Bentley & Swift, Kirkheaton; joiners' work, furniture, and beds, Messrs. J. & G. Haigh, Kirkburton; plumbers' and glaziers' work, Messrs. G. Garton & Sons, Huddersfield; plasterers' work, Messrs. Broadbent Brothers, Moldgreen; painters' work, Mr. J. W. Jessop, Kirkburton; slaters' work, Messrs. T. Allison, Ltd., Milnsbridge; concreters' work, Mr. John Cooke, Little Royd; telephone and bells, Mr. T. W. Broadbent, East-parade; ranges, etc., Messrs. Chrispin & Co., Huddersfield; heating apparatus, Messrs. T. A. Heaps & Co., Huddersfield; disinfector, Messrs. Newton, Chambers, & Co., Sheffield; and laundry plant, Messrs. W. Summerscales & Sons, Keighley.

PROPOSED COUNCIL OFFICES, KNARESBOROUGH.

The Knaresborough Urban Council have acquired a site in York-place and Gracious-street for the purpose of providing additional office accommodation, with dwelling-house. It is estimated that the total cost will be about 3,000*l.*, and plans have been prepared by the Surveyor to the Council, Mr. F. Cartledge.

INSTITUTION OF ENGINEERS AND SHIPBUILDERS IN SCOTLAND.

The members of this Society have now entered into possession of their new premises at the corner of Elmbank-street and Elmbank-crescent, Glasgow. The whole of the works have been designed by and carried out under the superintendence of Messrs. John B. Wilson & Son, architects, Glasgow, whose design was selected in competition, with the exception of the electric lighting and fittings and heating and ventilation, which were under the direction of special committees of the Institution. The principal works have been executed by the following contractors:—Foundations, Mr. R. Murdoch; mason work, Messrs. Morrison & Mason; wright, Mr. J. Cochrane, jun.; slater, Mr. A. M. Ross; plumber, Messrs. Wallace & Connell; plasterer, Messrs. McGilvray & Ferris; glazier, Messrs. C. & J. Malloch; tiles and marble, Messrs. Haddow, Forbes, & Co.; painters, Messrs. Bowie, Fisher, & Co.; carvers, Messrs. Holmes & Jackson; stained-glass, Mr. Stephen Adam, all of Glasgow; heating and ventilation, Messrs. Boyd & Sons, Paisley;

stonework, Mr. Gilbert Seale, London; stair railing, Messrs. Singer & Sons, Frome. The various halls, rooms, etc., of the building are lighted by 388 tantalum lamps, and seventy carbon filament lamps, the installing and wiring of which has been carried out by Messrs. Haddow & Co., Glasgow.

COLLEGE PAVILION, ABERDEEN.

A pavilion has been built at King's College in connexion with the recreation grounds, at an estimated cost of 1,500*l*. The plans were prepared by Mr. A. Marshall Mackenzie, LL.D., A.R.S.A., and the building is of stone and lime, with a slate roof.

Sanitary and Engineering News.

ROYAL SANITARY INSTITUTE.

At an examination in Sanitary Science as Applied to Buildings and Public Works, held in London on November 27 and 28, twenty-eight candidates presented themselves, and the following fifteen candidates were granted certificates:—F. C. Ball (Cambridge); G. S. E. Parker (New Malden); H. Bishonden (Camberwell); A. Clark (Croydon); G. W. Hilditch (Kingston); T. Meville de Cruz (Anerley); A. S. F. Mody (Earl's Court); F. S. Mumford (Barnes); E. L. Pierce (Orpington); H. W. Seymour (Alford); A. E. Smith (Yiewsley); D. H. Steward (Norwich); E. Timothy (Sydenham); H. G. Turner (Surbiton); H. C. Webb (Highbury).

ASPLEY AND WOBURN SANDS SANITARY AND WATER SCHEMES.

A Local Government Board inquiry has been held respecting an application of the Rural District Councils of Ampthill and Newport Pagnell for sanction to borrow sums of 7,226*l*. and 4,774*l*. to defray their respective proportions of the cost of carrying out a sewerage scheme for the parishes of Aspley Guise, Aspley Heath, and Woburn Sands, and also for permission to borrow sums of 7,700*l*. and 4,973*l*. in respect of their several proportions of the cost of carrying out a water-supply scheme for these parishes. The Local Government Board Inspector who conducted the inquiry was Mr. H. Shelford Bidwell, M.Inst.C.E., and Mr. David Balfour, jun., M.Inst.C.E. (Messrs. D. Balfour & Sons, civil engineers, London and Newcastle), was among those who gave evidence.

BELFAST SEWAGE SCHEME.

A Local Government inquiry was recently held by Sir Acheson MacCullagh, Medical Inspector, with whom sat Mr. P. C. Cowan, M.Inst.C.E., Chief Engineering Inspector, into the application of the Council of the County Borough of Belfast for sanction to a loan of 112,300*l*. for the purpose of the carrying out of a scheme for the purification of the sewage of the city, and for completing the Sydenham and Knock drainage scheme. Mr. H. A. Cutler, City Surveyor, in describing the scheme, said it was proposed to lay a pipe from the present works to the end of the Twin Islands, and have a sludge pier there, and the sludge would be pumped into a sludge steamer and taken out to sea. He believed that to be the proper scheme for Belfast, and it was not an experimental scheme.

Miscellaneous.

PROFESSIONAL AND BUSINESS ANNOUNCEMENT.

Messrs. Longden & Co., ironfounders, have removed from 447, Oxford-street, to 3, Berners-street, Oxford-street, W.

BUILDING MATERIALS FOR CHINA.

Sir. Alex. Hosie, the British Acting Commercial Attaché at Peking, in his report on the foreign trade of China for 1907, states that building still proceeds on an extensive scale at the great commercial centres, and the imported materials and fittings connected therewith continue to increase. Their value is given as 212,152*l*., as compared with 32,670*l*. in 1906; but there are many other articles in the import list required in the building trade, such as asbestos, electrical materials and fittings, felt and felt sheathing, stoves and grates, cement, glue, and timber, all of which showed substantial increases. Asbestos rose in value from 6,704*l*. to 8,106*l*., electrical materials and fittings from 150,484*l*. to 189,871*l*., felt and felt sheathing from 4,042*l*. to 5,855*l*., stoves and grates from 31,759*l*. to 47,251*l*., cement in weight from 54,364 to 94,771 tons, glue from 11,578 to 13,424 cwts., and timber (soft wood) increased by over 50,000,000 sq. ft., with a total import of 220,220,898 sq. ft. Hardwood also rose from 3,090,573 to 3,215,737 cubic ft. One would have expected that window glass would have increased with other building materials, but it actually fell off by 83,367 boxes, the obvious reason being that the import in 1906 amounted to 277,512 boxes, or more than 100,000 boxes over the 1905 import, which was well ahead of the average of the previous five years.

BRAZILIAN IMPORTATIONS OF CEMENT.

The total quantity of cement imported into Brazil during 1907 was (according to the report of the British Acting Consul-General at Rio Janeiro) 179,323 tons, or about 100 tons less than the previous twelve months. The value of the import, however, increased from 468,452*l*. to 538,770*l*. German cement headed the list with 78,127 tons, valued at 205,002*l*., in 1906, and 83,025 tons, worth 259,880*l*., in 1907. As regards weight, imports from the United Kingdom amounted to about one-third of Germany's in 1906, and over one-half in 1907. In 1906 Belgium supplied more cement than the United Kingdom, but in 1907 she was behind, as her share had fallen off, while that from the United Kingdom had nearly doubled in weight, and more than doubled in value.

NOTES FROM BAVARIA.

From the annual report of Mr. Buchmann, British Consul at Munich, it appears that there is at Wunsiedl, Upper Franconia, a school for stonemasons, frequented on an average by thirty pupils, who, to be admitted, must be over 14 years of age. The tuition is free, and covers a period of two terms (October 1 to March 31). The subjects taught by the four masters comprise drawing, geometry, geology, leverage, etc. The pupils enjoy reduced railway fares.——The stone industry in Upper Franconia suffered in 1907 from a strike lasting over two months, which ended by a higher rate of wages being conceded.——The new agreement settling the wages of the 16,000 hands employed in the Munich building trade, coming into force on April 1, 1909, provides that the average wage per hour for bricklayers and carpenters shall be 6¼d., and that for assistants 5¼d.—that is to say, an increase since 1905 of 25 and 30 per cent. respectively. The highest wage will be 9d. for bricklayers engaged in drainage work. Saturday's wages are to be retained by the employers as a guarantee against the workmen breaking the agreement, and sums thus kept back will only be paid out with wages due the following week.——The Municipal Council of Munich have been considering the desirability of housing the large labouring population in cottages instead of in flats as at present. This purpose will be aided by a new method of building, whereby whole streets of cottages identical in plan and arrangement are simultaneously and cheaply constructed entirely of concrete.——A Bill has been passed by the Bavarian Chambers authorising the more frequent cutting of woods and forests, by which means it is expected to increase their yearly yield of over 150,000*l*. Woods and forests occupy 26 per cent. of the total area of the German Empire. As a country having less than 85 acres of forests to every 100 inhabitants is unable to produce the quantity necessary for its own consumption, Germany must be considered as deficient in forests, there being only 63 acres to 100 inhabitants. Bavaria is the only country in the Empire with 95 acres to 100 inhabitants, and is therefore able to supply the other German States with about 2,000,000 cubic metres of wood per annum.

CAMBRIDGE UNIVERSITY LIBRARY.

Out of the benefaction fund, which now amounts to 20,000*l*., a sum of 5,000*l*., given by the Goldsmiths' Company, has been expended upon the fittings, in part, of Cockerell's Building, which are now filled with 20,000 volumes. An amount of about 9,000*l*., which includes a gift of the Chancellor being the balance (2,755*l*.) of the Nobel Prize, has been invested by the Financial Board.

A STATUE OF BURNS.

A statue of Burns has been presented to Milwaukee, U.S.A., by Mr. J. A. Bryden. It was executed in bronze by Mr. W. Grant Stephenson, R.S.A., and represents the poet as standing, and holding a quill pen and note-book. On the granite pedestal are bronze panels of "Burns at the Plough" and "The Cottar's Saturday Night."

PRIVATE BILLS, SESSION OF 1909.

Sets of plans to the number of 143 have been deposited in the Private Bills Office in respect of 23 (14) railways, 5 (8) tramways, 72 (63) provisional orders, and 43 (46) miscellaneous undertakings, etc. The corresponding figures for last year are given within parentheses.

THE NATIONAL COLLECTIONS.

For the National Gallery have been acquired, through the gift of M. Frédéric Mélé, who resides in Paris, a portrait painted by J. A. Vallin, of the famous oculist, Dr. Forlonze, of Naples, which was first exhibited in the Salon of 1808, and Eugène Delacroix's "Allegory," representing a Gothic triumph over the Romans in Italy. M. Armand Charnay has presented "Le Parc de Jansac," painted by himself. As Trustees of the National Portrait Gallery have been appointed Mr. Edmund Gosse, LL.D., and Mr. H. H. Raphael, M.P., to the Trusteeships rendered vacant by the resignations of Viscount Peel and Sir T. D. Gibson-Carmichael, Bart.

BUNYAN WINDOW, WESTMINSTER ABBEY.

Mr. J. N. Comper's design has been approved by the Dean and Chapter for the filling-in of a two-light window in the north aisle as a memorial to John Bunyan, at a computed cost of some 1,200*l*. The subjects will be taken from scenes and episodes of "The Pilgrim's Progress," comprising the fight with Apollyon, Vanity Fair, and the fording of the river to the Celestial City.

THE MALL IMPROVEMENT, LONDON.

In the House of Commons last week, Mr. Carr-Gomm asked the First Commissioner of Works whether the archway which was now being built in the Mall over the footway leading to Birdcage-walk was part of the original scheme for the improvement of the Mall, and whether it was intended to build any other white stone arches in St. James's Park.—Mr. Harcourt: No archway is being built over the footpath. The gates form part of the Queen Victoria Memorial scheme for the completion of the Mall. It is not proposed to build any arches in St. James's Park.—Mr. Rees: May I ask whether turf or trees have been lost by what has been done?—Mr. Harcourt: Yes, sir. One tall tree, which I am convinced was dying, has been removed at my direction.

NEW SCHOOL AT ISLINGTON.

The Education Committee of the London County Council have passed the preliminary plans for the erection of a new school to accommodate 504 children at Shelburne-road, Islington, and have decided to ask for the approval of the Board of Education.

THAMES CONSERVANCY.

The Board on Monday granted the following applications under protective conditions:—Vanesta, Ltd., 2c, Eastcheap, to place a 3-in. pipe in the river off their premises at Millwall for the purpose of discharging the overflow from their boilers; Molassine Company, Ltd., enlarging their jetty at East Greenwich to a length of 103 ft. and a width of 30 ft., to erect a roof over same, and to place a dolphin at the upper side of the jetty; Amalgamated Laundries, Ltd., Brentford, to place two concrete blocks and dwarf piles in the foreshore to support the wall of their premises; Staines Rural District Council, to place a 9-in. surface pipe in the river at Church Drawdock, Shepperton, in substitution for the existing 6-in. pipe; Messrs. Fletcher & Co., Gravesend, to construct an embankment with a frontage of 260 ft. at Clifton-parade, Gravesend. In regard to the proposed deep-water quay at Stone, the Lower River Committee reported that the statutory notice had expired on the 27th ult., and that no objections had been received. Messrs. Deacon & Co., on behalf of the licensees and the London Ocean Wharf Syndicate, wrote asking for an extension of time until September 1 next for the commencement of the work. The application was granted. The engineer submitted a plan, which was approved, of a proposed swinging mooring in Higham Bight for the use of large ships loading or unloading explosives. The cost is estimated at 550*l*. The tender of Messrs. Griffiths & Co. was accepted at 337*l*. for granite quoins, hollow quoins, and copings for rebuilding Penton Hook Lock. In connexion with the same work Messrs. D. Roberts, Son, & Co., Ltd., are to supply hewn greenheart logs (appoximate 2,000 ft.), at 3s. 7½d. the cubic foot.

MIDDLESEX COUNTY COUNCIL.

At a meeting of the Middlesex County Council on December 3, it was resolved to raise 16,815*l*., the approximate amount of a secondary school for boys at Harrow. The items which make up the total are:—12,500*l*. for buildings and fencing, 1,000*l*. for equipment, 200*l*. for clerk of works and legal expenses, and 3,050*l*. for the site. Tenders are to be invited for a county school at Southgate, at an estimated cost of 13,700*l*., made up as follows:—Main buildings, including manual training and cookery centres, and caretaker's house, 12,500*l*, 1,000*l*. for equipment, and 200*l*. for clerk of works, etc. Tenders are also to be invited for the erection of a county school at Wood Green. The estimated cost of this is 12,700*l*., the items being:—Main buildings including manual training and cookery centres, 11,500*l*., equipment 1,000*l*., and 200*l*. for clerk of works, etc. Other tenders are to be invited for

putting up a school in Providence-road, Yiewsley, with 320 places, and a manual training and cookery centre. The estimated cost is 5,195*l.*, which includes 4,750*l.*, estimated cost of buildings; 350*l.*, furniture and fittings; and 95*l.*, wages of clerk of works. The Education Committee has been authorised to issue public notice of intention to erect a new Council school in Uxbridge to accommodate 300 children. Messrs. Mattock Brothers, of Wood Green, have been instructed to erect a caretaker's cottage in Hazelwood-lane, Southgate, at a cost not exceeding 400*l.*, in accordance with their priced bills of quantities for the main school buildings. In May last the Council accepted the tender of Messrs. Treasure & Son for the extension of the Tottenham Polytechnic buildings, subject to the Tottenham District Council entering into an agreement to pay a moiety of the cost. The Tottenham authority has not yet sealed this agreement, and the County Council have adopted a resolution urging them to do so as soon as possible, so that there may be no further delay. The Council have agreed to contribute a portion of the expense of the inversion of Salmon's brook, at an estimated cost of 750*l.*, and Sadler's mill stream (350*l.*). Edmonton Urban District Council propose to carry out the work. The Council have also agreed to bear a portion of the cost of inverting Carbuncle ditch, at an estimated cost of 450*l.*, and deepening Pymes brook from Tottenham Lock to Carbuncle ditch at an estimated cost of 1,891*l.* The Tottenham Urban District Council are to carry out the two last-mentioned jobs; 9,409 sq. ft. of land near the Hertford main road, Enfield, is to be acquired by the Highways Committee from the Light Railway Committee, at a cost of 300*l.*, and is to be used as a storage depôt for plant. Edmonton Urban District Council propose to widen the footway and roadway of Fore-street, at a cost of 2,060*l.* The County Council have agreed to contribute to the cost.

USHER HALL, EDINBURGH.

Lord Provost Gibson, Edinburgh, has received drawings showing a new site and plans for the erection of the Usher Hall. Mr. J. J. Burnet, A.R.S.A., is responsible for the leading idea, and he has been assisted by Mr. N. D. Dick and Mr. T. T. Tait, Edinburgh. The site proposed is the West Princes Street-gardens, on the embankment south of the railway between the westmost part of Ramsey-gardens and Edinburgh Castle—that is to say, immediately to the west of the Mound. The height of the structure as seen from Princes-street would just be about the same as that of the Royal Institution. The plan gives a hall capable of seating 3,000 people, with suitable assembly and other rooms.

GARDEN SUBURB AT NEWPORT.

An estate comprising about 45 acres of land on the eastern side of Newport, Mon., has been acquired for the purpose of making a garden suburb, with 300 houses in pairs, for the better class of worker. The planning of the houses limits the number to about ten per acre. The houses will average from 300*l.* to 325*l.* in price. A bowling-green and allotments will be provided, and the place will resemble Bournville, Birmingham, more than any other of the established garden cities. The design has been prepared by Mr. J. W. Hunt (Messrs. Newland, Davis, & Hunt) in conjunction with Mr. T. H. Mawson, of Windermere.

LIMERICK BARRACKS.

Answering a question by Mr. Joyce, Mr. Haldane states that the painting at Limerick Barracks is being carried out by Messrs. Arundel, and, so far as could be ascertained, they were paying the current rate of wages. If any specific complaint could be furnished that the conditions of the contract were not complied with, they would be immediately investigated.

LOCAL GOVERNMENT BOARD INQUIRY: THE ARCHITECT'S CONTROL OF WORK ON HIS BUILDING.

Mr. Edwin T. Hall, Vice-President of the Royal Institute of British Architects, at the invitation of the Local Government Board, recently gave evidence before a Committee appointed by the Board to inquire into the relationship between architects of public buildings erected from loans sanctioned by the Board, and engineers who advise in respect of engineering work required for such buildings, the point being considered whether the latter work should be withdrawn from the control of the architect. A printed copy of Mr. Hall's evidence was subsequently sent by the Committee to the Institute Council, with the intimation that the Committee would be glad to receive any representations the Institute desired to make on matters coming within the scope of their inquiry. Among these was the question how it should be determined what plant to instal at poor-law institutions—to what extent, for instance, it was desirable that the installation of plant at such institutions should be under the direction of the architect. The matter was considered by the Council at a meeting in October last, when the following resolution was passed:—"That the Council of the Royal Institute consider it imperative, in the interest of the employers, that the architect of such public buildings should have the control, direction, and supervision of everything necessary to bring to completion the building which he has designed, and that they endorse the evidence given on this point by Mr. Hall; and, further, that in each separate case the plant to be installed should be determined by the employers in consultation with the architect." A copy of this resolution was forwarded to the Local Government Board, with an expression of the Council's appreciation of the courtesy shown by the Board in affording them an opportunity of expressing their views upon the point.

ARCHITECTURE AND THE LONDON COUNTY COUNCIL.

In the *Journal* of the Royal Institute of British Architects for April 4 last was published a letter addressed from the Institute to the Chairman of the London County Council, in which, while acknowledgment was made of the courteous consideration given by the London County Council and its officials to suggestions made by the Institute from time to time upon architectural matters of public importance, it was pointed out how much more usefully suggestions of this kind could be made in the initial stages of a scheme than after it had been developed. The letter went on to suggest that when such matters as street planning, the design of buildings on land leased by the Council, bridges, or monumental works under the control of the Council are under consideration, the Institute might be invited to depute one or two of its members specially competent to deal with the particular subject involved, to confer with the Council or its officers charged with the matter, and give their views on its architectural aspect. Should this procedure be found satisfactory, it might be thought desirable at a later period to constitute an Advisory Committee of a few architects, with perhaps a painter and sculptor, whose experience and advice could be placed gratuitously at the disposal of the Council. This in its turn, the signatories hoped, would develop into a body corresponding with the Conseil des Bâtiments Civils of Paris, to which the architectural development of France owes so much. The letter was signed by Mr. Thos. E. Collcutt, President; Sir Aston Webb, R.A., Chairman Town Planning Committee; Mr. John W. Simpson, Chairman Art Committee; and Mr. Alexander Graham, Hon. Secretary. The London County Council referred this letter to their Improvements Committee, and the following reply, dated November 16, has been addressed to the President:—

Spring-gardens, S.W.: Nov. 16, 1908.

The President R.I.B.A.

SIR,—The Chairman of the Council has laid before the Improvements Committee your letter of February 21 with regard to the architectural features of improvements. The Committee are of opinion that the suggestions which the Royal Institute of British Architects have been good enough to make are of great interest and importance, and they desire me to express their thanks for the action taken by the Royal Institute. The matters mentioned in your letter have engaged the careful attention of the Committee, but, as Parliament is now discussing proposals for new legislation which, if agreed to, may have great effect on the whole question of improvements, they have come to the conclusion that it would be undesirable to advise the Council at present to come to any definite decision thereon. The Committee thought that the Royal Institute would wish to have this intimation of their views, with an assurance that, as soon as a decision shall have been come to by Parliament on the proposals in question, the Committee will again consider your letter.—I am, sir, your obedient servant

G. L. GOMME,
Clerk of the Council.

ARCHITECTS AND TOWN PLANNING.

Mr. W. H. Lever, M.P., has made an offer, through Professor Reilly, to the School of Architecture of the University of Liverpool, to enable that body to undertake a systematic study of town planning, including all architectural aspects of civic design. The details of the scheme have not yet been definitely determined, but Mr. Lever has offered a sum of 500*l.* to be spent in sending a commission abroad to collect information with a view to publishing a report. When this has been done Mr. Lever has further offered, for three years in the first instance, a sum of not less than 500*l.* and not more than 1,000*l.* a year, as may be needed, for continued research and instruction.

Law Reports.

PAINTER'S EMPLOYMENT AND THE WORKMEN'S COMPENSATION ACT.

THE case of Brereton *v.* Stevens and another came before the Court of Appeal, consisting of the Master of the Rolls and Lords Justices Moulton and Farwell, on the 8th inst., on the appeal of the applicant from a decision of the judge of Shoreditch County Court, sitting as the arbitrator under the provisions of the Workmen's Compensation Act.

Mr. Blackwell, in support of the appeal, said it raised the point whether a man who was employed to do certain work which kept him continuously engaged for over a fortnight entitled his dependants to compensation under the Act. The County Court judge found that the man's employment was casual, but not without considerable doubt. The facts were as follows:—The respondents were respectively the owner of certain property at Walthamstow and her son, who managed, as he said, his mother's property without remuneration. The male respondent had employed the applicant's husband upon a previous occasion for some three weeks or, at any rate, for something over a fortnight, as a day labourer for painting certain of the property of Mrs. Stevens. Mrs. Brereton, when she discovered that the house in which she was living (which belonged to Mrs. Stevens) and certain other of Mrs. Stevens's property was to be repaired by painting, asked Mr. Stevens to give her husband work, and he did so. It was calculated that the work would last rather more than a fortnight. After Brereton had been working on the job for about a week he fell from what would have been held to be scaffolding under the old Act, and received such injuries that he afterwards died. The point for decision was whether under such a contract of employment Brereton fell within the definition of "casual labourer" in sect. 13 of the Act. Mr. Stevens in his evidence stated that he had intended Brereton to work on the whole job until it was finished.

The Master of the Rolls: What misdirection is there?

Mr. Blackwell: By the learned judge saying that to bring the case within the Act the employment must be of a stable nature.

Lord Justice Moulton: I think we must take it that the learned judge directed himself rightly. I cannot find that he has a wrong opinion about casual employment. Chartering for a day is of a casual nature, you will admit, and chartering for a year you will say is not. There is a line to be drawn between. Is not that line, when drawn, a question of fact?

Mr. Blackwell submitted not.

Lord Justice Moulton: The rule of our jurisdiction is that if the learned judge has not misdirected himself in law, then a finding upon a mixed question of law and fact binds us.

Mr. Blackwell: I have never understood that you are bound by anything except a question of fact.

Lord Justice Moulton: If the judge had misdirected himself on a question of fact, we can reverse it; but if there is some evidence to support his finding you cannot upset it.

Mr. Blackwell: I submit there is no evidence in support of his finding that the employment was of a casual nature. The Act was intended to cover this kind of employment.

Lord Justice Moulton: I cannot find any misdirection by the learned judge, but I do see a finding of fact.

Lord Justice Farwell: To my mind it is a pure question of fact, and there is no misdirection.

Without calling upon counsel for the respondents, the Master of the Rolls, in giving judgment, said he thought the appeal failed. He could not see that the learned County Court judge had misdirected himself. If he had found that the employment was not of a casual nature he might well have done so, and as a matter of law it would have been impossible for them to have upset him. Upon a question of mixed law and fact they could not interfere unless it was made out to their satisfaction that the learned judge had misdirected himself. He could find no trace of misdirection, and therefore he thought the appeal failed and must be dismissed.

The Lords Justices concurred.

RIGHT OF MINING COMPANIES TO WORK SO AS TO CAUSE SUBSIDENCE.

MR. JUSTICE JOYCE, in the Chancery Division on the 3rd inst., concluded the hearing of the case of Locker-Lampson *v.* the Staveley Coal and Iron Company, Ltd., and another—an action by the plaintiffs for a declaration that the defendants were not entitled to work the coal so as to cause a subsidence of the surface, and for an injunction and damages.

The facts of the case were shortly these:—The defendants are the lessees under a lease

dated in July, 1871, of the top hard coal and certain seams of coal lying under lands in Derbyshire and Yorkshire, with power to work and win the coal for a term of sixty-three years at yearly rents and royalties. Under the lease the defendants, as the lessees, covenanted to work the collieries in a workmanlike manner until the seams of coal should be exhausted, and to leave all such good and sufficient ribs and pillars as were necessary for the support of the shafts and buildings of the mine, and to leave sufficient coal "for the support of any house or other building now erected on any part of the said lands and premises, or of any house or buildings (if any) hereafter to be erected thereon which might from time to time be agreed upon by the lessor and the company"; and also to pay to the lessor and his tenants compensation for any damage done by carrying on the mining operations. The plaintiffs were persons claiming under the lessor, who died in 1885. The other defendants, the Sheepbridge Coal and Iron Company, Ltd., were sublessees from the Staveley Company of certain of the coal seams granted under the lease of 1871. The plaintiffs alleged that by improper working of the mines the defendants had caused a considerable portion of the surface of the lands to subside, and brought the present action claiming the relief before stated.

The defendants pleaded that the lease authorised the working of the coal without leaving any support for the surface except such ribs and pillars as the lease provided should be left for the support of houses or buildings. Defendants also said that until 1906, when the present claim was made, no complaint was made of the manner of working. Defendants also further alleged that if an injunction were granted it would prevent them profitably working any part of the coal in future.

In the result, his lordship, after hearing the evidence and the addresses of counsel, held that the evidence showed that the coal could not be worked without causing subsidence, and he held that the parties and their agents must have known this. He also held there was no evidence to show how the coal could have been got without affecting the surface, and said that to grant an injunction in such a case would be to work an injustice. His lordship therefore dismissed the action with costs.

Mr. Levett, K.C., Mr. Methold, and Mr. J. G. Wood appeared for the plaintiffs; Mr. Upjohn, K.C., Mr. Hughes, K.C., and Mr. J. Dixon for the Staveley Company; and Mr. C. A. Russell, K.C., and Mr. J. Dixon for the second defendants, the Sheepbridge Company.

Patents of the Week.

APPLICATIONS PUBLISHED.*

25,589 of 1907.—M. REINHARDT and E. H. JOHNSON: *Multiple Distributing Ceiling Rose.*

This relates to a multiple pedestal wall or ceiling rose provided with complete connexions for a number of electric light circuits all connected to ring-shaped + and — bus-bars embedded in the base of the ceiling rose so arranged that all the feeders become locked between the sides of a deep flange on the cover plate and the walls of a groove or channel of the base so that they cannot be withdrawn from the terminals. It may be so constructed that it may be used without fuses, or with fuses, by adding a fuse magazine, each fuse being replaceable and having a break of 3 in. or more.

28,710 of 1907.—J. HILL: *Brick, and a Method of Building Therewith.*

This relates to a brick hollowed out in the centre on top, and having ledges to receive the projection from the bottom of the brick above it so that the cement can be delivered upon the inner ledges and thus give a close fitting at the edges of the brick, and a method of building with bricks as described, wherein a small wagon is used provided with outlet tubes so as to deliver cement upon the inner ledges.

533 of 1908.—H. L. DOULTON and R. J. PLEACE: *Flushing-valves for Closets and the like.*

This relates to water supply valves for closets and the like, and consists in the method of opening the valve which is held to its seating by water pressure by compression of air acting upon a secondary or relief valve through which the accumulated water escapes.

590 of 1908.—J. TAYLOR: *Flues of Kitchen Ranges or the like.*

This relates to flues of kitchen ranges or other cooking stoves, and consists in locating within a hollow box or flue, which communicates both with the chimney and with the space between the hot-plate of the top of the oven, an inner hollow box supported over the back vertical flue and extending upwards inside the aforementioned box, whereby the hot gases from the fire are separated until they join above said inner box, and travel together to the chimney thereby assisting instead of retarding each other.

1,940 of 1908.—C. H. DIERICKX: *Doors.*

This relates to a rolling or sliding door supported on only two points arranged so that one of the two points is pivotally attached to a lever, pivoting at its lower end on a fixed point placed essentially in the centre of the travel of the edge of the side of the door, while the other point is supported by a roller or a pivoted sliding arrangement and to a modification in which the lever support is pivoted on a fixed pivot near the ground, while its free end is hinged to the side of the door panel and near the upper side of same. One side of the door panel is suspended to a roller running on a horizontal rail, while the other side is hinged with a lever pivoting on a fixed point disposed essentially in the middle of the travel of that side, the lower end of the panel being engaged by a groove or guiding tongue.

1,961 of 1908.—G. RIEXINGER: *Flexible Pipe Joints.*

This relates to a pipe joint comprising in combination two hollow members, one having an open nipple and the other an opening and coupling ring surrounding the nipple and secured in the opening, a nut arranged within the coupling ring and adapted to be secured to the nipple and a shoulder on said nut for engaging the end of the coupling ring and packing interposed between the nipple and the coupling ring, and adapted to be compressed by the nut.

1,985 of 1908.—E. PASS and K. PEART: *Pipe-cutters.*

This relates to pipe cutters in which a spindle is provided with a rotary wheel cutter, additional cutters being sometimes carried by an adjustable head carried on the spindle and adapted to partially embrace the tube or pipe to be cut, and has reference particularly to the spindle carrying the wheel cutter. According to the invention, the spindle end is formed in the usual manner, and it is provided with a strengthening ferrule or bush of steel or other metal. This ferrule is bored to fit snugly around the spindle end, and at its outer end, is slotted, but not completely across, but, by preference, only sufficiently to provide space for the rotary wheel cutter. The ferrule is or may be formed with a groove in its periphery parallel with its axis to receive a screw or key passing through the boss carrying the curved head of the tube cover, and the pin carrying the rotary cutter also passes through the ferrule as well as the spindle end. This ferrule not only strengthens the spindle, preventing breakage of the same, but is convenient to make, and applies either to new tools in course of manufacture, or to existing ones.

2,499 of 1908.—F. WESSELS, JUN.: *Glazing Bar for Roofs.*

This relates to a glazing bar for roofs, consisting of a rolled channel bar of upright U-shaped cross-section provided at the inner sides with projecting lips or flanges which serve as bearing surfaces for the heads of tightening screws and serving in conjunction with external top flanges to receive and hold the packing cords, while the said external flanges form gutters at the top of the channel bar for leading off the condensation water, and the combination with the upright U-shaped channel bars having shaped internal and external upper flanges of the usual tightening screws formed with a rectangular bevelled head and an ordinary perforated spring-clip engaged by said screw.

3,765 of 1908.—H. V. CHANDLER: *Safety Ladder Supports.*

This relates to a ladder-supporting device, comprising a transverse base-piece, formed with horizontal slots carrying clamps designed to engage the sides of the ladder, and also furnished or formed with a right angled extension having a vertical slot carrying a clamp designed to engage the first round of the ladder, and the combination therewith of wheels or rollers pivoted to the ends of the base-piece to be brought into operation for facilitating the shifting of the ladder.

4,611 of 1908.—J. B. LE MAITRE, T. SANDERS, G. SANDERS, and H. SANDERS: *Stays for Casements and Fanlights.*

This relates to stays for casements, and consists in the combination of a slotted tubular or bent-over stay with a peg provided with a collar or shoulder, so that the collar works inside the stay during the movement of the latter, and the peg and stay cannot therefore be entirely separated.

4,949 of 1908.—T. BUCHHOLZ: *Tread for Stairs, Steps, and the like.*

This relates to a tread for stairs, steps, and the like, consisting of a base-plate of hard material, provided with longitudinal grooves and of a softer material filling the grooves, and adapted to prevent slipping, characterised by the foremost tread edge of the base-plate possessing interruptions at intervals, which are likewise filled up with the softer filling material so that the latter in places comes forward up to the front edge, whereby the latter effectively guards the foot from slipping off.

7,083 of 1908.—J. GAMBLEN: *Floor Cramps.*

This relates to a floor cramp composed of a piece of iron or steel and provided with spurs or fixed lugs so that, when the device is placed upon a joist and twisted under the action of a wedge, the teeth are caused to engage with the sides of the joist. According to the invention an arrangement is provided by which a plate of iron or steel 12 in. long by 5 in. broad has two fixed lugs on one surface, the whole being cast in one piece, to clip joists of a certain thickness, the object of casting this cramp in one piece being to prevent distortion of shape upon stress being applied. Provision is made by removable or adjustable lugs to clip joists of different thicknesses on ordinary framed floors, or where no depth of joist is obtainable, or where no joists are used at all, the cramp being inverted and operated along a wood runner. All the lugs have jagged or toothed edges to get a firmer grip, and prevent slipping, while a pair of wedges act as forcing agent. The cramp being placed across a joist in the necessary slanting position and at the proper distance from the edge of the floor-boards to be operated upon, a pair of wedges are placed between the cramp and the floor-boards, the wedges are then driven, and as they impinge upon one end only of the cramp, this swivels round and the teeth on the lugs embed themselves in the joist which keeps the cramp up to its work. A hole is provided through which the removable lug is passed to allow of the cramp being used on joists of different thickness as required.

12,214 of 1908.—W. BRYAN and R. J. ROBERTS: *Safety Devices for Use on Ladders and the like.*

This relates to a safety device for use on ladders and the like, comprising bands or lips coupled by a cross-piece to which is connected a ring or chain interlinking with a belt, the loops gripping the sides of the ladder.

13,609 of 1908.—A. FERGUSON: *Machines for Straightening and Cambering Beams or Girders.*

This relates to a machine for straightening and cambering beams or girders, comprising in combination two pairs of outside rotating rollers substantially in line, a central rotating roller or pair of rollers, and a slide on which said central roller or rollers is or are carried, said slide being movable transversely in relation to said line, and in which the two outside rollers are carried by slides in inclined guideways whereby they may be brought into feeding engagement with beams of different sizes.

13,846 of 1908.—F. HENZE and H. HENZE: *Device for Locking Windows in Open Position.*

This relates to a device, consisting of a blade-spring in the shape of a quadrant, which is fixed to the window frame, and at its free end is provided with a U-shaped projection. Upon the window being opened, it slides along the blade-spring pressing thereby the latter down until it arrives with its bottom edge in the U-shaped projection, where it is arrested.

15,240 of 1908.—A. J. HOWELL: *Weather Strip Attachments for Doors, Windows, and such like.*

This relates to a weather strip attachment for doors, windows, and such like of the type wherein the strips of various shapes are so constructed as to form a spring which will be pressed tightly between the fixed and movable parts of the door, window, or the like when closed. As applied to the top rail of a sash, the invention consists in a weather strip which is made over a strip of spring metal secured by nails or screws to the top rail of sash, the arrangement being such that when the sash is right home the spring strip is forced into the recessed part of the top casing of the frame, slots in strip permitting the movement of said strip on the guide pins.

17,503 of 1908.—GEORGE CLARK, LTD., and W. BASTON: *Means for Locking Nuts.*

This relates to means for locking nuts wherein the nut is locked by means of an adjustable pin carried by a detachable lug projecting from the side of the bolt, and adapted to bear against the top of the nut. Preferably the adjustable pin is a screw pin passing through a lug on a pin which passes through the bolt.

* All these applications are in the stage in which opposition to the grant of patents upon them can be made.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this Number: Competitions, iv.; Contracts, iv. vi. viii. x.; Public Appointments, —.; Auction Sales, xxvi.

Certain conditions, beyond those given in the following information, are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bonâ-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

***** It must be understood that the following paragraphs are printed as news, and not as advertisements: and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur.**

Competitions.

* FERRO-CONCRETE.—Designs for the architectural treatment of a building constructed in ferro-concrete. Drawings on view. For further particulars see advertisements on pages iv. and xvii.

DECEMBER 14. — **Blackpool.** — CENTRAL PUBLIC LIBRARY.—Competitive designs are invited for the erection of a new Central Public Library. Premiums of 50, 30, and 20 guineas. Plan of site and conditions may be obtained on application to Mr. T. Loftos, Town Clerk, Town Hall, Blackpool, on payment of a deposit of 1*l.* 1s. See advertisement in our issue of September 19 for further particulars.

DECEMBER 19.— **Preston (Lancs).**—ADDITIONS TO ASYLUM.—The Committee of Visitors for the County Asylum at Whittingham, near Preston, invite designs, etc., for a new annexe for about 700 pauper lunatics. Conditions and plan of site may be obtained on payment of a deposit fee of 5*l.* 5s. from Mr. Leonard Cotman, Law Clerk to the Committee of Visitors for Whittingham Asylum, 8, Lune-street, Preston. See advertisement in our issue of October 10 for further particulars.

DECEMBER 31.— **Cornwall.**—COUNTY OFFICES.—The Cornwall C.C. invite competitive designs for the above. Premiums of 50*l.*, 20*l.*, and 10*l.*; premium for successful design to merge into architect's commission. Particulars on receipt of deposit of 1*l.* 1s. to be obtained from Mr. Christopher L. Cowlard, Clerk to the County Council, Bodmin. See advertisement in our issue of October 3 for further particulars.

Contracts.

BUILDING.

DECEMBER 12-JANUARY 6. — **Hexham.** — SCHOOL.—Northumberland Education Committee invite tenders for a new secondary school at Hexham. Name and address to Mr. C. Williams, Secretary to the Education Committee, the Moothall, Newcastle-on-Tyne, accompanied by a deposit of 2*l.* 2s. for specification and bills of quantities. Plans may be inspected at the Committee's Office or at the office of Messrs. Oliver, Leeson, & Wood, Milburn House, Newcastle-on-Tyne.

DECEMBER 12. — **Leeds.** — ALTERATIONS.—Alterations necessary to convert the building hitherto known as the Queen's Arcade Hotel into a café. Names to Mr. Wm. Broadbent, M.S.A., architect, Red Hall-chambers, Guildford-street, Leeds, and at Horsforth.

DECEMBER 14.—**Bridlington.**—CHANCEL AND ORGAN CHAMBER.—Erection of a new chancel and organ chamber to the Church of St. Anne's, at the Convalescent Home, Bridlington. Bills of quantities at house of Mr. W. S. Walker, F.R.I.B.A., architect, 52, Quay-road, Bridlington.

DECEMBER 14. — **Chillerton.**—SCHOOL ALTERATIONS, ETC.—The Isle of Wight County Education Committee invite tenders for the execution of alterations and additions to school buildings, alterations to drains, etc., at Chillerton Council School, near Newport. Plans, etc., may be seen at the County Education Offices, Newport, I.W., or at the Architect's Office, St. Thomas's-street, Ryde, I.W.

DECEMBER 14. — **Hanley.** — ALTERATIONS, ETC., TO BATHS. — Alterations and additions to the Public Baths, Lichfield-street, Hanley. Full particulars, etc., may be obtained at office of Mr. Joseph Lobley, Borough Engineer and Surveyor, Town Hall, Hanley.

DECEMBER 14. — **North Broomhill.** — ALTERATIONS TO PREMISES. — Proposed alterations to branch premises, North Broomhill, for the Broomhill Co-operative Society, Ltd. Plans, etc., can be seen upon application to the Secretary at the Society's Central Premises, Broomhill.

DECEMBER 14.—**Tonmawr.**—HOUSES.—(1) Construction of streets and sewers, (2) twenty or more houses at Tonmawr, near Port Talbot, for the Whitworth Estate Building Club No. 1. Names to Mr. Frank B. Smith, M.S.A., C.E., Port Talbot.

DECEMBER 14. — **Wednesbury.** — SANITARY CONVENIENCE.—The T.C. invite tenders for the erection of a public sanitary convenience near the Market-place. Plans, etc., can be inspected, and form of tender obtained, at the offices of Mr. E. Martin Scott, Borough Engineer and Surveyor, Town Hall, Wednesbury.

DECEMBER 14. — **Wellington.**—VESTRY.—Building a new vestry to the Wesleyan Church, Wellington. Plan, etc., may be seen at office of Mr. S. R. Dean, Duke-street, Wellington, Salop.

DECEMBER 14.—**West Bromwich.**—KITCHEN, ETC.—West Bromwich Education Committee invite tenders for the erection of a new cookery kitchen and students' dining-room in connexion with the Secondary School, in accordance with plans, etc., prepared by their architects, Messrs. Wood & Kendrick, High-street, West Bromwich. Applications for forms of tender, etc., should be made at the office of the architects, where plans may be seen. A deposit of 1*l.* 1s. must be forwarded with the application for form of tender.

DECEMBER 14 — **Winton.** — FIRE-STATION.—Bournemouth B.C. invite tenders for (*a*) constructing a fire-station; (*b*) supplying and fixing wrought-iron fencing. Full particulars, etc., can be obtained of the Borough Engineer, Mr. F. W. Lacey, provided that the sum of 1*l.* 1s. has been previously deposited, in respect of each tender, with him.

DECEMBER 15.—**Bargoed, etc.**—SCHOOL WORKS.—Glamorgan C.C. invite tenders for the following works, viz.:—(1) New higher elementary school at Bargoed; (2) foundations, boundary wall, etc., for new school at Tonmawr, near Neath; (3) new offices at Neath Intermediate School; (4) forming and levelling playground at Hengoed Council School. Plans, etc., may be seen, and bills of quantities, etc., obtained, for work No. 1 at the Bargoed Police-station, and for works Nos. 2 and 3 at the Neath County Police-station. Plans may be seen, and copies of the specification, etc., obtained, for work No. 4 at the Hengoed County Police-station. The plans, etc., of all the works may be seen or obtained at offices of Mr. T. Mansel Franklen, Clerk of the County Council, Glamorgan County Council Offices, Westgate-street, Cardiff.

DECEMBER 15. — **Birkenhead.** — CORRUGATED IRON BUILDING.—The Guardians invite tenders for the supply and erection of a corrugated iron portable building, to accommodate fifty persons, at the Union Workhouse, Church-road, Tranmere. Mr. John Carter, Clerk to the Board, Poor Law Offices, Conway-street, Birkenhead.

DECEMBER 15.—**Pile Estates, Elgin District.**—HOUSE, ETC.—The mason, carpenter, slater, plumber, and plaster works of (1) new house at Mains of Blackhills; (2) new barn at Greenhead; (3) covering cattlefolds and alterations on steading at Clackmarras; (4) covering cattlefolds and alterations on steading at Mains of Coxton; (5) new barn and alterations at Redbog. The plans, etc., may be seen with Mr. John Wittet, architect, Elgin.

DECEMBER 15.— **Tranmere, Birkenhead.** — CORRUGATED IRON BUILDING.—The Guardians invite tenders for the supply and erection of a corrugated-iron portable building, to accommodate fifty persons, at the Union Workhouse, Church-road, Tranmere. Mr. John Carter, Clerk to the Board, Poor Law Offices, Conway-street, Birkenhead.

DECEMBER 16. — **Baxenden.** — SCHOOL WORKS. — Proposed alterations at the Wesleyan School, Baxenden. Specifications for the masons', joiners', plumbers', plasterers', and painters' work from Mr. J. Singleton Green, Borough Surveyor, Haslingden.

* DECEMBER 16. — **Edgware.** — ADDITIONS. — The Guardians of the Hendon Union invite tenders for alterations and additions to their Workhouse, near Edgware. See advertisement in this issue for further particulars.

DECEMBER 16.—**Rathdown.**—COTTAGES.—Rathdown No. 1 R.D.C. invite tenders for building two single labourers' cottages and one pair labourers' cottages. Plans, etc., can be obtained from the Clerk to the R.D.C. on payment of 5s. Mr. Patrick Cunniam, Clerk of Council, Clerk's Office, Loughlinstown.

DECEMBER 16.— **Ripon.** — STATION IMPROVEMENTS.—North-Eastern Railway Directors invite tenders for carrying out improvements at Ripon Station. Plans, etc., may be seen, and quantities, etc., obtained, upon application to Mr. William Bell, the Company's Architect, at York. Duplicate plans may also be seen upon application to the Stationmaster, Ripon.

DECEMBER 17.—**Antrim.**—COTTAGES.—The R.D.C. of Antrim invite tenders for building thirty single labourers' cottages, and thirty-one blocks of two each, also for fencing, sinking wells, and erecting pumps. Plans, etc., can be obtained from the Clerk to the R.D.C. on payment of 5s.

DECEMBER 17.—**Golcar.**—HOUSE.—The erection of a dwelling-house in Station-road, Golcar. Plans, etc., at office of Mr. Arthur Shaw, architect, Golcar.

DECEMBER 17.—**Leeds.**—HANDICRAFT CENTRE.—Leeds Education Committee invite tenders for any of the trades required in the erection of a handicraft centre, cookery-room, and boundary walls at the Rodley Council School. Quantities may be obtained on application to the Architect's section of the Committee.

DECEMBER 18. — **Glasgow.** — BATHS.—Glasgow Corporation invite offers for works required in connexion with the proposed alterations and additions to the Kinning Park Baths. Plans may be seen, and specifications, etc., obtained, on application at the Office of Public Works, City Chambers, 64, Cochrane-street.

DECEMBER 18. — **Lindley.** — HOUSES. — Erection of nine dwelling-houses in Oakes-road, Lindley. Plans may be seen, and bills of quantities obtained, at office of Mr. Joseph Berry, architect and surveyor, 3, Market-place, Huddersfield.

DECEMBER 18. — **Manchester.** — FOUNDATIONS.—The Electricity Committee of the Manchester Corporation invite tenders for the foundation work for a 6,000 k.w. turbo-generator set, pipe trench, and extensions to air filter house, required at their Stuart-street Generating Station. Forms of tender, etc., may be obtained on application to Mr. F. E. Hughes, Secretary, Electricity Department, Town Hall, Manchester, on payment of a fee of 2*l.* 2s. Drawings may be inspected at the offices of the engineers, Messrs. C. S. Allott & Son, 46, Brown-street, Manchester.

DECEMBER 19.—**Braintree.**—EXTENSION OF ENGINE-HOUSE, FOUNDATIONS FOR MACHINERY, ETC.—The U.D.C. invite tenders for the extension of engine-house No. 1, erection of producer house, coal store, and construction of foundations for new pumping machinery at their Waterworks Pumping Station. The drawing, etc., can be inspected, and the form of tender obtained, either at the office of the Engineer, Mr. Percy Griffith, M.Inst.C.E., 54, Parliament-street, Westminster, S.W., or at the office of the Surveyor to the Council, Vestry Hall, Braintree, on payment of 2*l.* 2s.

DECEMBER 19.—**Danyderi, etc.**—HOUSES.—Merthyr Tydfil Corporation invite tenders for the erection of thirty-eight houses at Danyderi, Merthyr Vale, and sixty-eight houses at Penywern, Dowlais. Plans, etc., may be seen, and forms of tender obtained at the office of the Borough Surveyor, Town Hall, Merthyr Tydfil.

DECEMBER 21. — **Padiham.**—SCHOOL.—Lancashire Education Committee invite tenders for the erection of a new elementary school at Padiham, near Burnley, to accommodate 620 scholars. The plans may be seen, and bills of quantities obtained, at the office of the County Architect, Mr. Henry Littler, 16, Ribblesdale-place, Preston, by payment of a deposit of 2*l.*

DECEMBER 21.—**Portadown.**—GOODS STORE.—Great Northern Railway Company (Ireland) Directors invite tenders for the extension of the goods store at Portadown Station. Drawings, etc., at the office of Mr. W. H. Mills, Engineer-in-Chief, Amiens-street Terminus, Dublin, or copies of them at the office of the District Engineer, Belfast. Forms of tender on payment of 1s. each (not returnable).

* DECEMBER 22.—**Brentwood.**—INFANTS' SCHOOL.—The Guardians of the Hackney Union invite tenders for conversion of the swimming bath at the schools at Brentwood into a separate infants' school. See advertisement in this issue for further particulars.

DECEMBER 22.— **Bridgwater.** — SCHOOL.—Somerset County Education Committee invite tenders for the erection of a new Council School for about 200 children at Somerset Bridge, Bridgwater. Drawings, etc., can be seen, and further information obtained, at the offices of the architects, Messrs. Cottam & Samson, Bridgwater.

DECEMBER 24.—**Alves.**—RESTORATION AFTER FIRE.—Mason, carpenter, slater, plumber, plaster, painter, and glazier works of restorations, after fire, at Cloves Farm Steading, Alves. Plans, etc., may be seen with Mr. Charles C. Doig, architect, Elgin.

DECEMBER 26. — **Wick.**—SCHOOL. — Wick (Burgh) School Board invite tenders for the execution of the mason, carpenter, slater, plasterer, plumber, glazier, and painter work, also the iron and heating-engineer work, of the new higher grade school. The plans, etc., may be examined at the office of Mr. D. W. Georgeson, Clerk, Wick, or at the office of the Board's Architects, Messrs. D. & J. R. M'Millan, 105, Crown-street, Aberdeen.

* DECEMBER 28.—**Broughton.**—SCHOOL.—The Southampton C.C. invite tenders for a new Council school at Broughton. See advertisement in this issue for further particulars.

DECEMBER 28.— **Llwynypia.** — INFIRMARY.—Pontypridd Guardians invite tenders for the erection of an infirmary at their Workhouse, Llwynypia, Rhondda. Plans, etc., can be seen, and bills of quantities obtained, at the offices of the architects, Messrs. A. O. Evans, Williams, & Evans, Pontypridd, on payment to Mr. Wm. Spickett, Clerk to the Guardians, Union Offices, Pontypridd, of a deposit of 3*l.* 3s.

* DECEMBER 28. — **Lymington.** — SCHOOL. — The Southampton C.C. invite tenders for a new Council school at Lymington. See advertisement in this issue for further particulars.

DECEMBER 29. — **Guildford.** — FOUNDATIONS. — The T.C. invite tenders for the construction of the necessary foundations for refuse destructor plant and buildings at Bellfields, Stoke. Plans, etc., may be seen, and a bill of quantities obtained, at the office of Mr. C. G. Mason, C.E., the Borough Engineer, Tun's-gate, Guildford, upon payment of the sum of 2*l.* 2s.

* DECEMBER 30.—**London.**—LAVATORY ACCOMMODATION.—The Guardians of Lambeth invite tenders for additional lavatory accommodation at their Workhouse, in Prince's-road, Kennington-road, S.E. See advertisement in this issue for further particulars.

DECEMBER 31.— **Newcastle-on-Tyne.**—SCHOOLS.—Northumberland County Education Committee is now preparing lists of contractors who will be invited to tender for work or requirements in connexion with the erection of new Council schools and improvements to existing buildings. Firms desirous of being placed upon such lists are requested to furnish particulars of their name and address to Mr. C. Williams, Secretary to the Education Committee, the Moot Hall, Newcastle-on-Tyne.

DECEMBER 31.—**Penzance.**—HOUSE AND SHOP.—Erection of a dwelling-house and shop at South-terrace, Penzance, for Mr. G. Kettner. The drawings, etc., may be seen on application at the offices of the architect, Mr. Oliver Caldwell, F.R.I.B.A., Victoria-square, Penzance.

JANUARY 2.—**Cleator.**—SCHOOL.—Cumberland Education Committee invite tenders for the several trades required in the erection and completion of a mixed elementary school at Cleator for 330 children. Names forthwith to Mr. Geo. Dale Oliver, F.R.I.B.A., County Architect, Carlisle. Plans, etc., may be seen, and quantities, etc., obtained, at offices upon the receipt of a deposit of 1*l.* 1*s.* for a full set of quantities, or 10*s.* 6*d.* for each separate trade.

JANUARY 6. — **Usworth.** — HOUSES.—The C.C. of Durham invite tenders for the erection of fifty houses, etc., in the Parish of Usworth, in the Rural District of Chester-le-Street. Plans, etc., can now be seen, and bills of quantities obtained, at the office of Messrs. Brown & Spain, architects, 51, Fawcett-street, Sunderland.

JANUARY 7.—**Lincoln.**—WESTGATE WATER TOWER.—The Lincoln Corporation invite tenders for the construction of a brick tower 106 ft. high to T. W. L., to support a spherical-bottomed steel tank, containing 300,000 gallons of water, and subsidiary works at Westgate, Lincoln. Drawings may be seen, and specification, etc., obtained, at the office of the Engineer, Mr. Neil McK. Barron, Waterworks Engineer, upon payment of the sum of 5*l.* 5*s.*

* JANUARY 7. — **Watford.** — MANUAL INSTRUCTION CENTRE.—The Hertfordshire C.C. Education Committee invite tenders for a new manual instruction centre at the Victoria Senior Boys' School at Watford. See advertisement in this issue for further particulars.

* JANUARY 18.—**Macclesfield.**—DETACHED BLOCKS.—The Committee of Visitors, Cheshire County Asylum, Parkside, invite tenders for two detached blocks for forty-three patients each, at Parkside Asylum, Macclesfield. See advertisement in this issue for further particulars.

NO DATE.—**Accrington.**—PUBLIC BATHS.—The Corporation invite tenders for the erection of public baths, laundry, boiler-house, and chimney to be built in St. James-street. Plans, etc., may be seen, and forms of tender, etc., obtained, on application to the architect, Mr. William J. Newton, M.S.A., A.M.Inst.C.E., Borough Engineer, Town Hall, on payment of 5*l.*

NO DATE. — **Brondecwyn.** — WALLS, ETC.—The Merioneth Education Committee invite tenders for forming playgrounds and building boundary walls at Brondecwyn Council School. The plan, etc., may be obtained on application to the architects, Messrs. Deakin & Howard Jones, Plas Ynys, Borth, R.S.O.

NO DATE.—**Fyning Common.**—HOUSE.—Erection of a detached dwelling-house at Fyning Common, within two miles of Rogate Station. Apply to Messrs. Stride & Son, East-street, Chichester, or to Mr. W. Roland Howell, A.R.I.B.A., 5, York-buildings, Adelphi, W.C.

NO DATE.—**Llanddaniel.**—CHURCH ROOM.—Erection of a church room at Llanddaniel, near Gaerwen, Anglesey. Plans, etc., may be seen on application to Mr. Richard Hall, F.R.I.B.A., architect, Masonic-chambers, Bangor.

NO DATE.—**Plymouth.**—MOTOR HOUSE.—Tenders invited for erecting a motor house. Particulars on application. Write "N 6," *Morning News*, Plymouth.

NO DATE. — **Taff's Well and Penyrheol.** —CHAPELS.—Caerphilly D.C. invite tenders for the erection of two chapels, one to be built at Taff's Well Cemetery, and the other at Penyrheol Cemetery.—Plans, etc., may be seen, and quantities obtained, at office of Mr. Sidney Williams, M.S.A., architect, Borough-chambers, Wharton-street, Cardiff, or at Rectory-road, Caerphilly.

NO DATE. — **Whitby.**—RESIDENCE.—Proposed residence, Carr-hill, Whitby. Apply to Mr. Harold G. Walker, architect and surveyor, Golden Lion Bank, Whitby.

ENGINEERING, IRON, AND STEEL.

DECEMBER 14. — **Acton.** — STEAM ENGINES.—Acton D.C. invite tenders for the thorough overhauling and repair of the steam engines and pumps at the Council's Sewage Works, Warple Way, Acton Vale. The necessary arrangements for inspecting the engines, etc., can be made with the Surveyor.

DECEMBER 14. — **Daventry.** — BRIDGE.—Daventry R.D.C. invite tenders for the erection of a wooden or iron bridge at Flore Mill. Particulars can be obtained on application to Mr. W. W. Band, District Surveyor, Newnham, Daventry.

DECEMBER 14.—**Gorgie, Edinburgh.**—STEAM HEATING.—Steam heating installation at new Corn Market, Gorgie, according to plans, etc., which may be seen at the Public Works Office, City Chambers, where also schedules of quantities may be obtained on personal application.

DECEMBER 14. — **Manchester.** — CRUSHING AND SCREENING PLANT. — The Rivers Committee invite designs and tenders for the supply and erection, at their Sewage Works, Davyhulme, near Manchester, of crushing and screening plant complete. Samples of the stone may be seen, and general conditions, etc., may be obtained, on application to the Secretary of the Rivers Department, Town Hall, Manchester.

DECEMBER 15. — **Cheltenham.** — OIL ENGINES AND PUMPS.—Tenders are invited for the supply and erection, at Haydon Sewage Farm (four miles from railway station), of two oil engines, each of 4 brake horse-power, and two vertical treble-ram pumps. Further particulars may be obtained from Mr. J. S. Pickering, M.Inst.C.E., Borough Engineer, Municipal Offices, Cheltenham.

DECEMBER 15.—**London.**—STEEL DECK SPANS.—The Bengal and North-Western Railway Company, Ltd., invite tenders for the supply and delivery of seven spans 100 ft. steel deck spans and sixteen steel well curbs, 18 ft. diameter, as per specification to be seen at the Company's Offices, 237, Gresham House, Old Broad-street, London, E.C. For each specification a fee of 10*s.* will be charged, which cannot, under any circumstances, be returned.

DECEMBER 15. — **Manchester.** — RAIL SAWING MACHINE.—Manchester Corporation Tramways Committee invite tenders for the supply and delivery of one steel rail cold sawing machine. Specifications and forms of tender may be obtained on application to Mr. J. M. McElroy, General Manager, Tramways Department, 55, Piccadilly, Manchester.

DECEMBER 16. — **Camberwell.** — CORN-GRINDING MACHINES.—The Guardians of the Poor of the parish of St. Giles, Camberwell, invite tenders for the supply of six hand-power corn-grinding machines for their Workhouse, Gordon-road, Peckham, S.E. Forms of tender, etc., can be had upon application. Mr. Charles S. Stevens, Clerk to the Guardians, Guardians' Offices, 29, Peckham-road, S.E.

DECEMBER 16.—**Edinburgh.**—PIPES.—The Edinburgh and District Water Trustees invite tenders for providing and delivering about 1,100 tons of dry-sand cast-iron pipes. Copies of the specification, etc., may be obtained at the office of the Engineer, Mr. W. A. Tait, C.E., 72a, George-street, Edinburgh, and 9, Victoria-street, Westminster, S.W., on payment of 1*l.*

DECEMBER 17. — **Cardiff.** — BRIDGE. — The Corporation of Cardiff invite tenders for the reconstruction of Monthermer-road Bridge, crossing the Rhymney Railway. Drawings, etc., may be seen at the office of Mr. W. Harpur, M.Inst.C.E., City Engineer, City Hall, and copies of the same, with form of tender, may be obtained on payment of 2*l.* 2*s.*

DECEMBER 17.—**Leeds.**—HEATING.—Leeds Education Committee invite tenders for new heating apparatus for several of the Council schools. Apply to the Architect's Section, when specifications and full particulars will be forwarded.

DECEMBER 17.—**Salford.**—RETORTS, ETC.—The Gas Committee invite tenders for the supply of retorts, firebricks, etc., required at their various works. Full particulars may be obtained on application to Mr. Wm. W. Woodward, Engineer, Gas Offices, Bloom-street, Salford.

DECEMBER 21. — **Barnet.** — WORKHOUSE WATER SUPPLY PLANT.—The Guardians of the Barnet Union invite tenders for the supply, erection, and setting to work of certain pumping plant, comprising bore-hole pump driven by oil or gas engine. Further particulars and form of tender may be obtained at the office of the Engineer, Mr. J. C. Melliss, M.Inst.C.E., 264, Gresham House, Old Broad-street, London, E.C., on payment of the sum of 2*l.*

DECEMBER 21.—**Braintree.**—PUMPING MACHINERY.—Contract No. 2.—Braintree U.D.C. invite tenders for the delivery and erection of a gas engine, suction-gas plant, and set of two-throw well pumps with accessories, at the Waterworks Pumping Station, Braintree, Essex. Copies of the drawings, forms of tender, etc., can be obtained from the Engineer, Mr. Percy Griffith, M.Inst.C.E., 54, Parliament-street, Westminster, S.W., on payment of 5*l.*

DECEMBER 21. — **Chorlton.**—LAUNDRY MACHINERY.—The Guardians of the Poor of the Chorlton Union invite tenders for laundry machinery required to be delivered and fixed at the Withington Workhouse, West Didsbury, Manchester. Specifications may be obtained on application to Mr. David S. Bloomfield, Clerk to the Guardians, Union Offices, All Saints', Manchester.

DECEMBER 21.—**New Brighton.**—IRON PONTOON.—Wallasey U.D.C. invite tenders for the construction, etc., of one iron pontoon for New Brighton Ferry Landing-stage. Further particulars, etc., may be obtained at the Ferry Manager's Office, Seacombe Ferry, where drawings of the proposed pontoon may be inspected.

DECEMBER 31. — **Swinton.** — REFUSE DESTRUCTOR PLANT.—Swinton and Pendlebury U.D.C. invite tenders for the supplying and erecting of a refuse destructor plant. Particulars and conditions can be obtained on application to Mr Henry Entwisle, Surveyor, Council Offices, Swinton, Manchester.

JANUARY 7.—**Lincoln.**—STEEL TANK.—The Lincoln Corporation invite tenders for the supply and erection of a watertight steel tank of 300,000 gallons capacity, and subsidiary works, at Westgate, Lincoln. Drawing, etc., may be obtained at the office of the Engineer, Mr. Neil McK. Barron, Waterworks Engineer, Lincoln, upon payment of the sum of 5*l.* 5*s.*

NO DATE.—**Selby.**—ACCUMULATORS.—Selby U.D.C. invite tenders for supplying and erecting battery of accumulators at their Waterworks, Brayton, Selby. Forms of tender, etc., may be obtained at the office of the Waterworks Engineer.

MISCELLANEOUS.

DECEMBER 14. — **Sunderland.** — CARTAGE. — The R.D.C. invite tenders for the cartage of broken road material. Form of tender may be obtained on application to Mr. J. C. Wilson, Clerk to the Council, Board-room and Offices, 17, John-street, Sunderland.

DECEMBER 15. — **Belfast.** — CARTAGE.—The Works Committee invite tenders for the cartage required for periods of three or five years. Form of tender may be obtained on application to the Superintendent of Works Office, City Hall.

DECEMBER 15. — **Belfast.** — HORSING.—The Works Committee invite tenders for the horsing required for periods of three or five years. Form of tender may be obtained on application to the Superintendent of Works Office, City Hall.

DECEMBER 15.—**Deeside.**—QUARRYING, ETC.—Quarrying and breaking stones for the ensuing six months for road repairs within the Deeside District of Aberdeenshire. Particulars, etc., may be had from Mr. A. H. Clayton, Road Surveyor, Aboyne.

DECEMBER 16.—**Wakefield.**—FURNITURE, ETC.—The West Riding General Purposes Committee invite tenders for certain furniture required in the Treasurer's Department at the County Hall, Wakefield. Drawings may be seen, and specifications obtained, on application to office of Mr. J. Vickers-Edwards, County Architect, County Hall, Wakefield. A deposit of 1*l.* is required. Deposits must be posted addressed to the West Riding Treasurer, County Hall, Wakefield.

DECEMBER 17.—**Gillingham, Kent.**—REMOVAL OF LANDING STAGE, BORODON WHARVES.—The Council invite tenders for the removal of the landing stage and brow at the borough wharves to its original position alongside the western arm of Gillingham Dock. Specification, etc., can be obtained on application to the Borough Surveyor, Mr. J. L. Redfern, Corporation Offices.

DECEMBER 18. — **St. Marylebone.** — REMOVAL OF HOUSE REFUSE, ETC.—The Council of the Metropolitan Borough of St. Marylebone invite tenders for the removal of refuse. Particulars, with the printed form of tender, etc., may be had on application to Mr. James Wilson, Town Clerk, Town Hall, St. Marylebone, W.

DECEMBER 21.—**Chorley.**—ASHBINS.—The Chorley Corporation invite tenders for the supply of galvanised steel ashbins, according to specification and sample, which may be seen on application to Mr. William Cunliffe, Inspector of Nuisances, Fire-station, Chorley.

* DECEMBER 23.—**Forest Gate.**—GATES, FENCING, ETC.—The Guardians of Poplar invite tenders for works in connexion with certain new gates and iron fencing, etc., at Forest Gate Branch Workhouse. See advertisement in this issue for further particulars.

JANUARY 14. — **Dublin.** — SCAVENGING.—Sealed tenders for scavenging for the period March 1, 1909, to December 31, 1910, at the various barracks in Dublin, will be received at the office. Forms of tender, with list of barracks, can be obtained on application to the Officer Commanding Army Service Corps, Royal Barracks, Dublin. Headquarter Office, Lower Castle-yard, Dublin.

PAINTING, etc.

DECEMBER 14. — **Edinburgh.**—PAINTING.—Painting the external wood and iron work of Waverley Market, Princes-street and Waverley Bridge. Specification may be seen at the Public Works Office, City-chambers, where also schedules of quantities may be had on personal application.

DECEMBER 14.—**Hull.**—COLOURING.—The Education Committee invite tenders for colouring, whitewashing, etc., certain of their schools. Particulars, etc., can be obtained at offices of Mr. J. T. Riley, Secretary of Education, Education Offices, Albion-street, Hull.

DECEMBER 18.—**Preston.**—PAINTING.—The Corporation invite tenders for the cleaning, painting, etc., of the Wheat Sheaf Inn, Regatta Inn, Moor Park Inn, County Arms, and Corporation Arms. Specification, etc., may be had, and further particulars obtained, at the office of the Borough Engineer, Town Hall, Preston.

DECEMBER 30.—**Harrogate.**—COLOURING, ETC.—The Committee of Management of the Royal Bath Hospital and Rawson Convalescent Home, Harrogate, invite tenders for colouring, whitewashing, and varnishing. Specifications may be seen daily at the Hospital from 1 to 4 p.m.

ROADS, SANITARY, AND WATER WORKS.

DECEMBER 14. — **Cole Valley.** — DUPLICATE MAIN SEWER.—Yardley R.D.C. invite tenders for the provision and construction of sewers. Plans, etc., may be seen on application to the Engineer and Surveyor, Mr. Arthur W. Smith, at the Council House, Sparkhill, near Birmingham. Specification, etc., may be obtained on payment of 3*l.* 3*s.* to Mr. Francis Ladbury Thompson, Clerk of the Council, the Council House, Sparkhill, near Birmingham.

DECEMBER 14.—**Culter.**—CHURCHYARD WORKS.—Extension of the Culter Churchyard, including boundary walls, railings, excavations, walls, etc., in one contract. The plans will be seen with, and schedules of quantities obtained from, Messrs. Jenkins & Marr, C.E. and architects, 16, Bridge-street, Aberdeen. Copy of the plans lie with Mr. John Clark, office of Parish Council, Culter.

DECEMBER 14.—**Hull.**—PAVING, ETC.—The Grammar School Committee of Hull Corporation invite tenders for forming concrete paving to playgrounds, making alterations to latrines, etc., at the Grammar School, Leicester-street. Drawings, etc., may be seen at office of Mr. Joseph H. Hirst, City Architect, Town Hall, Hull, and quantities obtained, upon a deposit of 2*l.* 2*s.* Remittances to be made payable to the City Treasurer.

DECEMBER 14.—**Leeds.**—PAVING.—The Highways Committee invite tenders for the paving and flagging of the improvement in Hillidge-road. Forms of tender, etc., may be obtained on application at the Highways Office, 155, Kirkstall-road.

DECEMBER 14.—**Middleton.**—DRAINING, ETC.—The Corporation of Middleton invite tenders for the following works in connexion with the erection of a new school in Durnford-street, Middleton:—Draining all the premises; tiling of rooms, hall, corridors, etc. Specifications, etc., may be obtained from Mr E. Wood, architect, 78, Cross-street, Manchester.

DECEMBER 14.—**Ossett.**—PRECIPITATION TANKS.—The Corporation invite tenders for the construction of precipitation tanks, percolating and straining beds, humus tanks, alterations to buildings, and lightening the land at the Spa Sewage Outfall Works. Names to Mr. W. Brook, Town Clerk, Town Hall, Ossett.

DECEMBER 14.—**Penmorfa.**—WATER SUPPLY.—Tenders are invited by Glaslyn R.D.C. for the work of carrying out a scheme of water supply for the Village of Penmorfa. Plans, etc., can be inspected at the Clerk's Office at Portmadoc.

DECEMBER 14. — **Wem.** — SEWERAGE WORKS.—Wem U.D.C. invite tenders for the supply and laying of about 560 yds. of 3-in. cast-iron water pipes and fittings. Specification, etc., can be seen, and form of tender obtained, at the Town Hall, Wem, or on application to the Engineer, Mr. W. Woodley Wyatt, Whitchurch, Salop.

DECEMBER 14. — **Yardley.** — MAKING-UP.—Yardley R.D.C. invite tenders for the making-up of Yew Tree-lane and Harvey-road (portion), at Yardley. Plans, etc., can be seen, and bill of quantities, etc., obtained, on application to Mr. Arthur W. Smith, the Engineer and Surveyor to the Council, at the Council House, Sparkhill, near Birmingham, on payment of a deposit of 1*l.* 1*s.* to Mr. Francis Ladbury Thompson, Clerk of the Council, Council House, Sparkhill.

DECEMBER 14.—**Yardley.**—PRIVATE STREET WORKS.—Yardley R.D.C. invite tenders for the making-up of King's-road (portion between Speedwell-road and Canal Bridge), Hay Mills. Plans, etc., can be seen,

and bills of quantities, etc., obtained, on application to Mr. Arthur W. Smith, the Engineer and Surveyor to the Council, at the Council House, Sparkhill, near Birmingham, on payment of a deposit of 1*l.* 1*s.* to Mr. Francis Ladbury Thompson, Clerk of the Council, Council House, Sparkhill.

DECEMBER 15. — **Gabalfa, Llandaff.** — STREET WORKS.—Llandaff and Dinas Powis R.D.C. invite tenders for private street improvement works in certain streets and lanes at Gabalfa, in the Parish of Llandaff. Specifications, etc., may be seen, and bills of quantities obtained, on application to the Surveyor, Mr. James Holden, A.M.Inst.C.E., Park House, 20, Park-place, Cardiff.

DECEMBER 15.—**Lepton.**—PLAYGROUND.—Kirkburton Education Subcommittee invite tenders for levelling and asphalting girls' and infants' playground at Lepton Provided School. Specifications on application to Mr. William Wood, Divisional Clerk, Penistone.

DECEMBER 15. — **Purton Stoke.** — WATER SUPPLY.—The Cricklade and Wootton Bassett R.D.C. invite tenders for the construction and maintenance of works for supplying the Hamlet of Purton Stoke with water. Plans, etc., upon application to the Engineer, Mr. F. Redman, 34, Wood-street, Swindon, Wilts, and upon the payment of the sum of 2*l.* 2*s.*

DECEMBER 15. — **Stockton-on-Tees.** — PRIVATE STREET IMPROVEMENTS.—The Corporation invite tenders for private street improvement works required to be done in streets. Plans, etc., may be seen, and quantities, etc., obtained, from Mr. M. H. Sykes, Borough Engineer, Town Hall.

DECEMBER 16. — **Rochdale.** — PAVING. — Rochdale Paving, etc., Committee invite tenders for the paving, etc., work required in Trafalgar-street and in four passages off Ashfield-road. Plans, etc., may be seen, and copies of the quantities, etc., obtained, at the Borough Surveyor's Office, Town Hall.

DECEMBER 16. — **Smallthorne.** — STREET WORKS. — The U.D.C. of Smallthorne invite tenders for the execution of street works in back Victoria-street, Brindley Ford. A specification, etc., may be inspected at the Council Offices, Smallthorne.

DECEMBER 17. — **Islington.** — DRAINAGE. — The Guardians of the Poor of the Parish of St. Mary, Islington, invite tenders for the carrying out of certain repairs to the drainage at the Guardians' School, Hornsey-road, N., in accordance with plans, etc., which may be seen on application to their architect, Mr. William Lockwood, of 12, Sherwood-street, Piccadilly-circus, London, W., and a copy of the specifications obtained upon depositing 1*l.*

DECEMBER 19.—**St. Helens.**—SEWERS.—The owners of Orrell Estate Parr, near St. Helens, invite tenders for the construction of surface and foul water pipe sewers for the drainage of the estate. Plans, etc., may be seen, and form of tender, etc., obtained, at the office of Messrs. Chase & Broom, 67, Dale-street, Liverpool, on payment of 1*l.*

* DECEMBER 19.—**Watford (near).**—TANKS.—The Metropolitan Asylums Board invite tenders for new precipitating tanks in connexion with the sewerage system at Leavesden Asylum, King's Langley, near Watford, Herts. See advertisement in this issue for further particulars.

DECEMBER 22.—**Gateshead.**—PAVING, ETC.—Tenders are invited for paving, etc., streets. Plans, etc., may be seen, and quantities obtained, at the office of Mr. N. P. Pattinson, Borough Engineer, Town Hall, Gateshead.

DECEMBER 28.—**Burslem.**—SEWER.—The Corporation invite tenders for the construction of about 800 lin. yds. of storm-water pipe sewer, from Nile-street to the junction of Park-road with Moorland-road. Plan, etc., can be seen, and quantities obtained, at the Borough Surveyor's Office, Queen-street, on payment of 2*l.* 2*s.*

DECEMBER 28.—**Tipton.**—SEWAGE WORKS.—Tipton U.D.C. invite tenders for new sewage disposal works in the district of Tipton. Drawings, etc., may be seen, and quantities, etc., obtained, on application at the offices of Messrs. Dodd & Dodd, A.M.Inst.C.E., civil engineers, 37, Waterloo-street, Birmingham, on payment of a sum of 5*l.* 5*s.*

DECEMBER 29. — **Mansfield Woodhouse.**—FOREST TOWN SEWERAGE SCHEME.—The Mansfield Woodhouse U.D.C. invite tenders for the construction of sewerage and sewage disposal works for the Forest Town portion of their district. The drawings, etc., may be seen at the office of the Engineer, Mr. F. P. Cook, A.M.Inst.C.E., Leeming-street, Mansfield, and schedule of quantities, etc., may be obtained from him on payment of a deposit of 3*l.* 3*s.*

JANUARY 7. — **Bracebridge Heath.** — SERVICE RESERVOIR.—The Lincoln Corporation invite tenders for the construction of a covered concrete service reservoir of 6,000,000 gallons capacity, and subsidiary works at Bracebridge Heath, near Lincoln. Drawings may be seen, and specification, etc., obtained, at the office of the Engineer, Mr. Neil McK. Barron, Waterworks Engineer, Lincoln, upon payment of the sum of 5*l.* 5*s.*

JANUARY 8. — **Northtawton.**—WATERWORKS.—The R.D.C. of Okehampton invite tenders for the construction of a concrete service reservoir and extension of water mains at Northtawton, Devon, according to plans prepared by Mr. Harry Geen, A.M.Inst.C.E. Plans, etc., may be inspected at the P.C. Office, Northtawton. Forms to be obtained at the R.D.C. Office, Okehampton.

STONES, MATERIAL, AND STORES.

DECEMBER 14. — **Broadstairs.** — GRANITE KERB.—Broadstairs and St. Peter's U.D.C. invite tenders for supplying and delivering granite kerbing, granite channelling. Form can be obtained from Mr. H. Hurd, C.E., Town Surveyor, Council Offices, Broadstairs.

DECEMBER 14. — **Wallasey.**—GRAVEL.—The Parks Committee of the Wallasey U.D.C. invite tenders for the supply of 150 tons of Jersey gravel. Further particulars and form of tender may be obtained on application to Mr. W. H. Travers, Engineer and Surveyor, Public Offices, Egremont, Cheshire.

DECEMBER 15. — **Bradford.** — PAINTS, ETC. — The Guardians of the Bradford Poor Law Union invite tenders for paints and varnishes. Printed forms may be obtained on application at the Poor Law Offices, 22, Manor-row.

DECEMBER 15.—**Rochdale.**—PIPES.—Rochdale Corporation Waterworks Committee invite tenders for the supply of 500 6-in., 150 4-in., 150 3-in., 150 2-in. cast-iron pipes. Specification, etc., can be obtained on application to the Waterworks Office, Lord-street, Rochdale.

DECEMBER 16.—**Belfast.**—STORES.—The Belfast City and District Water Commissioners invite tenders for stores. Mr. R. Hamilton, Secretary, Water Office, Belfast.

DECEMBER 16. — **Hetton-le-Hole.** — STORES.—The Hetton Coal Company, Ltd., invite tenders for next year's supply of materials (ropes, etc., excepted). Forms may be obtained on application to Mr. Thomas Robson, Hetton Colliery, Hetton-le-Hole, S.O.

DECEMBER 16.—**Isle of Wight.**—MATERIALS.—The Guardians of the Poor of the Isle of Wight Union invite tenders. Forms can be obtained on application, personally or by letter, at the Workhouse, or at the office of the Clerk, 30, Pyle-street, Newport.

DECEMBER 17. — **Salford.** — ARTICLES.—Tenders for the supply of oils and paints for twelve months. Particulars may be obtained from the Master of the Workhouse, the Steward of the Infirmary, and the Superintendent of the Cottage Homes respectively.

DECEMBER 19. — **Trimdon.**—STORES.—The Trimdon Coal Company invite tenders for the supply of timber, oils, grease, firebricks, and general stores. Forms of tenders from Mr. I. Penney, Deafhill Colliery, Trimdon Grange, S.O.

DECEMBER 21. — **Erdington.** — MATERIALS FOR ENLARGEMENT OF SHORT HEATH INTERCEPTING SEWER.—Erdington U.D.C. Highways and Buildings Committee invite tenders for the supply of materials in connexion with the construction of the above works. Specifications, etc., may be obtained upon application to Mr. Herbert H. Humphries, Engineer to the Council, Council House, Erdington.

DECEMBER 22.—**Farnham.**—GRANITE.—The U.D.C. invite tenders for the supply of Clee-Hill-basalt Penaenmaur, Guernsey, and Quenast granite. Forms of tender may be had from Mr. R. W. Cass, the Council's Surveyor, Council Offices, South-street, Farnham, Surrey.

DECEMBER 30.—**Devonport.**—ANNUAL CONTRACTS.—Supply of stores and materials. Forms of tender may be obtained at the Borough Surveyor's Office, Devonport.

DECEMBER 31.—**Horsham.**—MATERIALS AND CARTAGE.—West Sussex Roads and Bridges Committee invite tenders for the supply of (1) picked surface flints and pit flints; (2) broken quartzite, granite, or other stone; (3) cartage from railway stations; (4) tar. Forms of tender may be obtained on application to Mr. H. W. Bower, County Surveyor, County Surveyor's Offices, 22, Worthing-road, Horsham, and applicants are requested to state which form of tender (1, 2, 3, or 4) they require.

DECEMBER 31. — **West Sussex.** — MATERIALS AND CARTAGE.—The Roads and Bridges Committee invite tenders for the supply of:—(1) Picked surface flints and pit flints; (2) broken quartzite, granite, or other stone; (3) cartage from railway stations; (4) tar. Forms of tender may be obtained on application to Mr. H. W. Bowen, County Surveyor, County Surveyor's Office, 22, Worthing-road, Horsham.

JANUARY 4.—**Newport, Isle of Wight.**—CEMENT.—The Corporation invite tenders for the supply of best fresh Portland cement, of British manufacture (name of manufacturers to be stated). Further particulars may be obtained from the Borough Surveyor, 19, Quay-street, Newport, I.W.

NO DATE.—**Glasgow.**—STORES.—Messrs. Wm. Barr & Sons, Coalmasters, Ltd., invite tenders for the supply of stores for the year from December 1, 1908, to November 30, 1909. Forms of tender, etc., can be obtained on application to the office of the Company, 10, Bothwell-street, Glasgow. Mr. Thos. H. Barr, Managing Director.

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*FREEHOLD PROPERTY, SHOREDITCH—At the Mart	Messrs. Potter	Dec. 14
*BUILDER'S STOCK, PLANT, AND EFFECTS, EARLSFIELD, S.W.—On the Premises	H. W. Smith	Dec. 18

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

November 26.—By BATCHELAR & SON, LTD. (at Croydon).

Croydon.—45 and 47, St. Peter's-st., f., w.r. 41*l.* 12*s.*	£450
Thornton Heath.—8 to 16 (even), Alma-pl., f., w.r. 88*l.* 8*s.*	850

November 27.—By DUDLEY W. HARRIS & CO. (at Ashford).

Ashford, Middx. — West District-rd., three cottages, f., w.r. 41*l.* 12*s.*	320

November 30.—By JOSHUA BAKER, COOKE, & STANDEN.

Islington.—97, Englefield-rd., u.t. 32¼ yrs., g.r. 6*l.*, y.r. 45*l.*	250
Friern Barnet. — Oakleigh-rd., North Glenthorpe, f., y.r. 36*l.*	420

By ELLIOTT, SON, & BOYTON.

Paddington. — Westbourne Park-rd., f.g.r. 21*l.* 13*s.*, reversion in 434 yrs.	575
Westbourne Park Villas, f.g.r. 18*l.*, reversion in 434 yrs.	475
Fleet-street.—133, Salisbury-sq., f. (a five-sixths share), y.r. 96*l.*	2,350
Hyde Park. — 107, Gloucester-ter., and 13, Upper Brook-mews, u.t. 34 yrs., g.r. 30*l.*, y.r. 162*l.*	1,700
6, Talbot-sq., u.t. 40¼ yrs., g.r. 20*l.*, y.r. 130*l.*	1,160
Paddington. — Spring-st., l.g.r. 65*l.*, u.t. 28½ yrs., g.r. 12*l.*	750
St. John's Wood. — Henstridge Villas, l.g.r. 109*l.*, u.t. 25¼ yrs., g.r. nil	1,305
Kentish Town.—8 and 10, Fitzroy-rd., area 9,000 ft., f., p.	3,200

By PHILIP & GEORGE GEEN.

Camberwell.—2, 4, 10, 12, 14 and 16, Horsman-st., u.t. 56 yrs., g.r. 30*l.*, w.r. 201*l.* 10*s.*	780
13 to 23 (odd), Horsman-st., u.t. 56 yrs., g.r. 30*l.*, w.r. 215*l.* 16*s.*	750
Brixton.—63, Chaucer-rd., f., e.r. 36*l.*	400

By GREEN & SON.

South Lambeth. — 61, Wandsworth-rd., f., y.r. 40*l.*	£525
1, Priory-gr., f., e.r. 40*l.*	350
2, Larkhall-la., f., y.r. 38*l.*	605
4, Larkhall-la., f., y.r. 32*l.*	450
Tooting.—168, 170, and 172, Tooting Bec-rd., f., y.r., 60*l.*	840
Greenwich.—7 and 9, Church-st. (s.), f., y.r. 59*l.*	685
Woolwich.—1, Nightingale-vale, and 34, Nightingale-pl., f., y.r. 32*l.*	410
Orpington, Kent.—High-st., two cottages, f., y.r. 20*l.*	530

December 1.—By KEMSLEYS'.

Chadwell Heath.—1 and 2, London-ter. (s.), f., y.r. 100*l.*	1,575

By HASLETT & DEFFEE.

Highgate.—1 to 4, Bramshill-gdns., u.t. 76 yrs., g.r. 39*l.* 10*s.*, y.r. 442*l.* 10*s.*	1,500
Paddington.—71, Church-st., u.t. 13 yrs., g.r. 8*l.*, y.r. 60*l.*	250

By MULLETT, BOOKER, & CO.

Marylebone.—42, Montagu-sq., u.t. 24 yrs., g.r. 80*l.*, p.	2,700
13, Bryanston-st., u.t. 28 yrs., g.r. 9*l.* 9*s.*, p.	300
St. John's Wood.—43, Queen's-rd., u.t. 28 yrs., g.r. 15*l.*, p.	750

By WALLER & KING (at Southampton).

Little Somborne, Hants. — Phillip's Heath Estate, 588 acres, f., p.	5,700

By J. C. PLATT (at Hammersmith).

Chiswick.—190 to 212 (even), Devonshire-rd., u.t. 85 yrs., g.r. 36*l.*, w.r. 241*l.* 16*s.*	860
Hammersmith.—213 and 215, Goldhawk-rd., u.t. 35 yrs., g.r. 9*l.* 9*s.*, y.r. 100*l.*	725
41, Beadon-rd. (s.), u.t. 60 yrs., g.r. 9*l.*, y.r. 72*l.*	625
Shepherd's Bush.—135, Coningham-rd., u.t. 56 yrs., g.r. nil., e.r. 45*l.*	480

December 2.—By SAMUEL B. CLARK & SON.

Bloomsbury.—5, Taviton-st., u.t. 14½ yrs., g.r. 30*l.*, p.	300

December 3.—By DENSHAM & BERRY.

Hammersmith.—56 to 59, Lillian-rd., f., w.r. 145*l.*	£1,300

By DIXON & CO.

Sutton, Surrey.—84, High-st., freehold site, p.	1,620

By NEWSON, SHEPHARD, & EDWARDS.

St. Lukes.—66 and 67, Bastwick-st., f., w.r. 84*l.* 10*s.*	400
Finsbury. — 5, Hollywell-row (s.), f., w.r. 41*l.* 12*s.*	250
Stoke Newington.—27, Benthal-rd., u.t. 67 yrs., g.r. 6*l.*, y.r. 36*l.*	340

By BOBSON & PERRIN.

Tottenham. —Birstall, Roslyn-rds., etc., f.g. rents 478*l.* 12*s.*, reversion in 84 and 74 yrs. (in lots)	9,703

By NOYS & HOWES (at Sydenham).

Sydenham.—12, Kent House-rd., u.t. 58 yrs., g.r. 7*l.*, w.r. 46*l.* 16*s.*	175

December 4.—By P. J. DIXON & SON.

Wimbledon.— Dupont-rd., f.g. rents 90*l.*, reversion in 94 yrs.	2,100

By ALFRED PEARCE & SON.

Dulwich.—7, Townley-rd., f., p.	470
Hornsey.—32, 34, and 36, Rectory-rd., u.t. 59 yrs., g.r. 14*l.*, w.r. 93*l.* 12*s.*	360

By C. H. & J. W. WILLMOTT.

Hammersmith.—46 and 52, Agate-rd., u.t. 67½ yrs., g.r. 15*l.*, y.r. 87*l.*	760

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; e.r. for estimated rental; w.r. for weekly rental; q.r. for quarterly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; la. for lane; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; gdns. for gardens; yd. for yard; gr. for grove; b.h. for beerhouse; p.h. for public-house; o. for offices; s. for shops; ct. for court.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the average prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£ s. d.	
Best Stocks	1 6 0	per 1000 alongside, in river.
Picked Stocks for Facings	2 10 0	" delivered
Flettons	1 4 0	" at railway depôt.
Best Fareham Red	3 12 0	" " "
Best Red Pressed Ruabon Facing	5 0 0	" " "
Best Blue Pressed Staffordshire	3 15 0	" " "
Do. Bullnose	4 0 0	" " "
Best Stourbridge Fire Bricks	3 14 0	" " "
GLAZED BRICKS.		
Best White and Ivory Glazed Stretchers	10 7 6	" " "
Headers	9 17 6	" " "
Quoins, Bullnose, and Flats	13 17 6	" " "
Double Stretchers	15 17 6	" " "
Double Headers	12 17 6	" " "
One Side and two Ends	16 17 6	" " "
Two Sides and one End	17 17 6	" " "
Splays, Chamferred, Squints	15 10 0	" " "
Best Dipped Salt Glazed Stretchers	10 7 6	" " "
Headers	9 17 6	" " "
Quoins, Bullnose, and Flats	13 17 6	" " "
Double Stretchers	15 17 6	" " "
Double Headers	12 17 6	" " "
One Side and two Ends	16 17 6	" " "
Two Sides and one End	17 17 6	" " "
Splays, Chamferred, Squints	15 10 0	" " "
Second Quality White and Dipped Salt Glazed	1 5 0	" less than best.

	s. d.	
Thames and Pit Sand	6 6	per yard, delivered.
Thames Ballast	5 0	" "
Best Portland Cement	28 0	per ton, "
Bes Ground Blue Lias Lime	19 0	" "

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 11s. 6d. per yard, delivered.
Stourbridge Fireclay in sacks 27s. 0d. per ton at rly. dpt.

STONE.

	s. d.	
BATH STONE—delivered on road waggons, Paddington Depôt	1 6½	per ft. cube.
Do. do. delivered on road waggons, Nine Elms Depôt	1 8½	" "
PORTLAND STONE (20 ft. average)—		
Brown Whitbed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 1	" "
White Basebed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 2½	" "
Ancaster in blocks	1 10	per ft. cube, deld. rly. depôt.
Beer "	1 6	" "
Greenshill "	1 10	" "
Darley Dale in blocks	2 4	" "
Red Corsenhill "	2 2	" "
Closeburn Red Freestone	2 0	" "
Red Mansfield "	2 4	" "

YORK STONE—*Robin Hood Quality.*

	s. d.	
Scappled random blocks	2 10	" "
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2 3	per ft. super. "
6 in. rubbed two sides ditto, ditto	2 6	" "
3 in. sawn two sides slabs (random sizes)	0 11½	per ft. cube, deld. rly. dep.
2 in. to 2½ in. sawn one side slabs (random sizes)	0 7½	" "
1½ in. to 2 in. ditto, ditto	0 6	" "
HARD YORK—		
Scappled random blocks	3 0	" "
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2 8	per ft. super. "
6 in. rubbed two sides ditto	3 0	" "
3 in. sawn two sides slabs (random sizes)	1 2	" "
2 in. self-faced random flags	0 5	" "

SLATES.

In. In.	£ s. d.	
20×10 best blue Bangor	13 2 6	per 1000 of 1200 at r.d.
20×12 " "	13 17 6	" "
20×10 first quality	13 0 0	" "
20×12 " "	13 15 0	" "
16×8 " "	7 5 0	" "
20×10 best blue Portmadoc	12 12 6	" "
16×8 " "	6 12 6	" "
20×10 best Eureka unfading green	15 17 6	" "
20×12 " "	13 7 6	" "
18×10 " "	13 5 0	" "
16×8 " "	10 5 0	" "
20×10 permanent green	11 12 6	" "
18×10 " "	9 12 6	" "
16×8 " "	6 12 6	" "

TILES.

	£ s. d.	
Best plain red roofing tiles	42	0 per 1000, at rly depôt.
Hip and Valley tiles	3	7 per doz. "
Best Broseley tiles	50	0 per 1000 "
Do. Ornamental tiles	52	6 " "
Hip and Valley tiles	4	0 per doz. "
Best Ruabon red, brown, or brindled do. (Edwards)	57	6 per 1000 "
Do. Ornamental do.	60	0 " "
Hip tiles	4	0 per doz. "
Valley tiles	3	0 " "
Best Red or Mottled Staffordshire do. (Peakes)	51	9 per 1000 "
Do. Ornamental do.	54	6 " "
Hip tiles	4	1 per doz. "
Valley tiles	3	8 " "
Best "Rosemary" brand plain tiles	48	0 per 1000 "
Best Ornamental tiles	50	0 " "
Hip tiles	4	0 per doz. "
Valley tiles	3	8 " "
Best "Hartshill" brand plain tiles, sand-faced	50	0 per 1000 "
Do. pressed	47	6 " "
Do. Ornamental do.	50	0 " "
Hip tiles	4	0 per doz. "
Valley tiles	3	6 " "
Staffordshire (Hanley) Reds or Brindled tiles	42	6 per 1000 "
Hand-made sand-faced	45	0 " "
Hip tiles	4	0 per doz. "
Valley tiles	3	6 " "

WOOD.

BUILDING WOOD.	At per standard. £ s. d.	£ s. d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	13 10 0	... 15 0 0
Deals: best 3 by 9	13 0 0	... 14 0 0
Battens: best 2½ in. by 7 in. and in., and 3 in. by 7 in. and 8 in.	11 0 0	... 12 0 0
Battens: best 2½ by 6 and 3 by 6	0 10 0	less than 7 in. and 8 in.
Deals: seconds	1 0 0	less than best.
Battens: seconds	0 10 0	" "
2 in. by 4 in. and 2 in. by 6 in.	9 0 0	... 10 0 0
2 in. by 4½ in. and 2 in. by 5 in.	8 10 0	... 9 10 0
Foreign Sawn Boards— 1 in. and 1¼ in. by 7 in.	0 10 0	more than battens.
¾ in.	1 0 0	"
Fir timber: best middling Danzig or Memel (average specification)	At per load of 50 ft. 4 10 0	... 5 0 0
Seconds	4 0 0	... 4 10 0
Small timber (6 in. to 10 in.)	3 12 6	... 3 15 0
Small timber (6 in. to 8 in.)	3 0 0	... 3 10 0
Swedish balks	2 10 0	... 3 0 0
Pitch-pine timber (30 ft. average)	4 0 0	... 4 15 0

JOINERS' WOOD.	At per standard.	
White Sea: first yellow deals, 3 in. by 11 in.	24 0 0	... 25 0 0
3 in. by 9 in.	22 0 0	... 23 0 0
Battens, 2½ in. and 3 in. by 7 in.	16 10 0	... 18 0 0
Second yellow deals, 3 in. by 1 in.	18 10 0	... 20 0 0
" 3 in. by 9 in.	17 10 0	... 19 0 0
Battens, 2½ in. and 3 in. by 7 in.	13 10 0	... 14 10 0
Third yellow deals, 3 in. by 11 in. and 9 in.	13 10 0	... 5 0 0
Battens, 2½ in. and 3 in. by 7 in.	11 0 0	... 12 0 0
Petersburg first yellow deals, 3 in. by 11 in.	21 0 0	... 22 10 0
Do. 3 in. by 9 in.	18 0 0	... 19 10 0
Battens	13 10 0	... 15 0 0
Petersburg second yellow deals, 3 in. by 11 in.	16 0 0	... 17 0 0
Do. 3 in. by 9 in.	14 10 0	... 16 0 0
Battens	11 0 0	... 12 10 0
Third yellow deals, 3 in. by 11 in.	13 0 0	... 14 0 0
Do. 3 in. by 9 in.	12 10 0	... 14 0 0
Battens	10 0 0	... 11 0 0
White Sea and Petersburg—		
First white deals, 3 in. by 11 in.	14 10 0	... 15 10 0
" " 3 in. by 9 in.	13 10 0	... 14 10 0
Battens	11 0 0	... 12 0 0
Second white deals, 3in. by 11 in.	13 10 0	... 14 10 0
" " 3 in. by 9 in.	12 10 0	... 13 10 0
Battens	10 0 0	... 11 0 0
Pitch-pine: deals	18 0 0	... 21 0 0
Under 2 in. thick extra	0 10 0	... 1 0 0
Yellow pine—First, regular sizes	44 0 0	upwards.
Oddments	32 0 0	"
Seconds, regular sizes	33 0 0	"
Oddments	28 0 0	"
Kauri Pine—Planks, per ft. cube	0 3 6	... 0 5 0
Danzig and Stettin Oak Logs—		
Large, per ft. cube	0 3 0	... 0 3 9
Small " "	0 2 6	... 0 2 6
Wainscot Oak Logs, per ft. cube	0 5 6	... 0 6 0
Dry Wainscot Oak, per ft. sup. as inch	0 0 8½	... 0 0 9½
¾ in. do. do.	0 0 7	... —
Dry Mahogany—Honduras, Tabasco, per ft. super. as inch	0 0 9	... 0 1 0
Selected, Figury, per ft. super. as inch	0 1 6	... 0 2 6
Dry Walnut, American, per ft. super. as inch	0 0 10	... 0 1 0
Teak, per load	17 0 0	... 22 0 0
American Whitewood Planks, per ft. cube	0 4 0	... 0 5 0
Prepared Flooring, etc.—	Per square.	
1 in. by 7 in. yellow, planed and shot	0 13 6	... 0 17 0
1 in. by 7 in. yellow, planed and matched	0 14 0	... 0 18 0
1¼ in. by 7 in. yellow, planed and matched	0 16 0	... 1 0 0
1 in. by 7 in. white, planed and shot	0 12 0	... 0 14 6
1 in. by 7 in. white, planed and matched	0 12 6	... 0 15 0
1¼ in. by 7 in. white, planed and matched	0 15 0	... 0 16 6
¾ in. by 7 in. yellow, matched and beaded or V-jointed brds.	0 11 0	... 0 13 6
1 in. by 7 in. " "	0 14 0	... 0 18 0
¾ in. by 7 in. white " "	0 10 0	... 0 11 6
1 in. by 7 in. " "	0 12 9	... 0 15 0

6 in. at 6d. to 9d. per square less than 7 in.

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton. £ s. d.	£ s. d.
Rolled Steel Joists, ordinary sections	7 0 0	... 7 10 0
Compound Girders, ordinary sections	9 0 0	... 10 0 0
Steel Compound Stanchions	11 0 0	... 12 0 0
Angles, Tees, and Channels, ordinary sections	9 0 0	... 10 0 0
Flitch Plates	9 0 0	... 9 10 0
Cast Iron Columns and Stanchions including ordinary patterns	7 10 0	... 8 10 0

METALS.

	Per ton, in London. £ s. d.	£ s. d.
IRON—		
Common Bars	8 10 0	... 9 0 0
Staffordshire Crown Bars, good merchant quality	8 15 0	... 9 5 0
Staffordshire "Marked Bars"	10 10 0	... —
Mild Steel Bars	8 15 0	... 9 5 0
Hoop Iron, basis price	9 5 0	... 9 10 0
" " Galvanised	17 0 0	... —
("And upwards, according to size and gauge.)		
Sheet Iron Black—		
Ordinary sizes to 20 g.	9 15 0	... —
" " 24 g.	10 15 0	... —
" " 26 g.	12 5 0	... —
Sheet Iron, Galvanised, flat, ordinary quality—		
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15 0 0	... —
Ordinary sizes to 22 g. and 24 g.	15 10 0	... —
" " 26 g.	16 10 0	... —
Sheet Iron, Galvanised, flat, best quality—		
Ordinary sizes to 20 g.	18 0 0	... —
" " 22 g. and 24 g.	18 10 0	... —
" " 26 g.	20 0 0	... —
Galvanised Corrugated Sheets—		
Ordinary sizes, 6 ft. to 8 ft. 20 g.	14 10 0	... —
" " 22 g. and 24 g.	14 15 0	... —
" " 26 g.	16 5 0	... —
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. by 20 g. and thicker	13 0 0	... —
Best Soft Stee Sheets, 22 g. & 24 g.	13 0 0	... —
" " " 26 g.	15 0 0	... —
Cut Nails, 3 in. to 6 in.	10 10 0	... 11 0 0
(Under 3 in., usual trade extras.)		

LEAD, &c.	Per ton, in London. £ s. d.	£ s. d.
LEAD—Sheet, English, 3lb. and up.	16 15 0	... —
Pipe in coils	17 5 0	... —
Soil pipe	19 5 0	... —
Compo pipe	20 5 0	... —
ZINC—Sheet—		
Vieille Montagne ton	26 10 0	... —
Silesian	26 5 0	... —
COPPER—		
Strong Sheet per lb.	0 1 0	... —
Thin "	0 1 1	... —
Copper nails "	0 0 10	... —
Copper wire "	0 0 10	... —
BRASS—		
Strong Sheet "	0 0 11	... —
Thin "	0 1 0	... —
TIN—English Ingots "	0 1 5	... —
SOLDER—Plumbers' "	0 0 7	... —
Tinmen's "	0 0 9½	... —
Blowpipe "	0 1 0	... —

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

15 oz. thirds	2½d.	per ft. delivered.
" fourths	1¼d.	" "
21 oz. thirds	3d.	" "
" fourths	2¼d.	" "
26 oz. thirds	4d.	" "
" fourths	3d.	" "
32 oz. thirds	4½d.	" "
" fourths	4¼d.	" "
Fluted Sheet, 15 oz.	3¼d.	" "
" 21 oz.	4½d.	" "

ENGLISH BOLLED PLATE IN CRATES OF STOCK SIZES.

Hartley's	2½d.	per ft. delivered.
"	2½d.	" "
"	2½d.	" "
Figured, Oxford Rolled, and "Oceanic" Glass, white	3½d.	" "
" tinted	5d.	" "
OTHER GLASS—		
"Arctic" Glass, white	3½d.	" "
" " tinted	5d.	" "
" " Ruby and opalescents	1s.	" "

OILS, &c.

		£ s. d
Raw Linseed Oil in pipes	per gallon	0 1 11
" " " in barrels	"	0 2 0
" " " in drums	"	0 2 3
Boiled " " in barrels	"	0 2 3
" " " in drums	"	0 2 6
Turpentine in barrels	"	0 2 6
" in drums	"	0 2 8
Genuine Ground English White Lead	per ton	21 0 0
"	"	20 0 0
Red Lead, Dry	per cwt.	0 7 0
Best Linseed Oil Putty	per barrel	1 12 0
Stockholm Tar		

VARNISHES, &c.

	Per gallon. £ s. d.
Fine Pale Oak Varnish	0 8 0
Pale Copal Oak	0 10 6
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 0
Superfine Hard-drying Oak, for seats of Churches	0 14 6
Fine Elastic Carriage	0 12 0
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 16 0
Finest Pale Durable Copal	0 18 0
Extra Pale French Oil	1 1 0
Eggshell Flating Varnish	0 18 0
White Pale Enamel	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 16 0
Best Black Japan	0 8 0
Oak and Mahogany Stain	0 8 0
Brunswick Black	0 14 0
Berlin Black	0 10 0
Knotting	0 10 0
French and Brush Polish	

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 a.m. *on Thursday*. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcement of Tenders accepted unless the amount of the Tender is stated, nor any list in which the owest Tender is under 100*l*., unless in some exceptional cases and for special reasons.]

* Denotes *accepted*. † Denotes *provisionally accepted*.

ABERYSTWYTH.—For additions to the Union Workhouse, for the Guardians. Mr. J. Lewis Evans, architect, 21, Great Darkgate-street, Aberystwyth:—

D. R. Williams ..	£110 0	E. E. Jenkins....	£89 10
D. Williams.....	108 0	Humphreys & Williams, Aberystwyth*	81 10
L. Bearm	102 10		
J. Jones	99 0		
T. Jenkins & Sons	90 0		

BARNET (Herts).—For extension of girls' grammar school, for the Governors of Queen Elizabeth's Grammar School. Mr. J. Ladds, architect, 93, Pemberton-road Harringay, N.:—

		Time for Completion. Months.
W. Dudley	£6,037	.. 12
Mason & Sons.....	5,418	.. 6
Patman & Fotheringham....	5,387	.. 8
Fitch & Cox	5,190	.. 7
W. J. Bloxham	5,158	.. 12
J. Cracknell	5,069	.. 10
McCormick & Sons	4,987	.. 8
J. Chessum & Sons	4,947	.. 9
G. E. Wallis & Sons	4,937	.. 7
Moss & Sons	4,909	.. 8
Spencer, Santo, & Co.	4,907	.. 9
Stevens & Sons	4,892	.. 8
Rowell Bros.	4,885	.. 6
C. R. Price	4,857	.. 6
J. Stewart	4,849	.. 6
J. Appleby & Sons.....	4,820	.. 5
Batley, Son, & Holness.....	4,758	.. 6
L. & W. H. Patman	4,755	.. 7
W. F. Blay	4,750	.. —
B. E. Nightingale	4,750	.. 5
W. Lawrence & Sons.....	4,738	.. 7
R. A. Lowe & Co.	4,733	.. 9
A. & B. Hanson.....	4,726	.. —
C. Miskin & Sons	4,723	.. 7
G. Parker	4,690	.. 7
Kirk & Randall	4,624	.. 7
A. Fairhead & Sons	4,597	.. 7
F. & G. Foster	4,535	.. 8
A. Monk	4,525	.. 6
Pattison & Sons.....	4,444	.. 5 to 6
J. Willmott & Sons	4,414	.. 8
T. Hickman	4,376	.. 8
Treasure & Sons.....	4,370	.. 6
G. Henson & Sons.....	4,350	.. 6
Clark & Sons, Cambridge‡ ..	4,312	.. 7 to 8

‡ Accepted subject to approval of Board of Education and the Local Government Board.

BIRKENHEAD.—For building a stable and for earthworks in connexion with forming a private garden at Palm-grove Nursery, for Mr. R. Barrow. Mr. J. W. Rodger, architect, 14, High-street, Cardiff:—

J. C. Boardman & Sons	£849 7 9
J. & F. Savage	700 6 6
J. Downham	583 19 6
T. W. Thomas	576 5 9
G. P. Snape.....	554 17 6
C. W. Green, Miles-street, Liverpool*	549 0 0

BRACEBRIDGE.—For additions to girls' school near Lincoln, for Kesteven County Council Education Committee. Mr. W. B. Pinser, Architect, 53a, High-street, Grantham. Quantities by Architect:—

Lincoln Co-operative Society, Lincoln £959 0 0

CHESTER.—Accepted for two new public elementary schools, Egerton-street and Cherry-grove, Boughton, for the City and County of Chester. Mr. W. T. Lockwood, F.R.I.B.A., 88, Foregate-street, and Messrs. Douglas & Minshull, 6, Abbey-square, Chester, architects:—

Egerton-street.

J. Mayers, Son, & Co., 4, Canal-side, Chester..... £2,621 5 0

Boughton.

J. Mayers, Son, & Co., 4, Canal-side, Chester 9,229 0 0

CHESTER.—Accepted for additional and the alteration of existing Municipal Offices, Town Hall. Mr. W. T. Lockwood, F.R.I.B.A., 88, Foregate-street, Chester:—

J. Mayers, Son, & Co., 4, Canal-side, Chester £5,980 0 0

COLWYN BAY.—For widening and forming new footpath in Bay View-road, for the Urban District Council. Mr. W. Jones, Engineer and Surveyor, Council Offices, Colwyn Bay:—

J. Roberts & Son, Colwyn Bay* .. £89 15 5

[Lowest of six tenders.]

EAST GRINSTEAD.—For north end drainage, for the Urban District Council:—

Contract No. 1.—Cast-iron Pipes (per ton delivered).

	Ordinary.	Specials.
Cochrane & Co.	£6 0 0	£10 0 0
Birtley Iron Co.	5 18 6	10 0 0
J. Peattie	5 17 6	10 7 6
Stanton Iron Co.	5 14 2	9 15 0
Case & Barnes	5 13 6	9 12 6
Jordans, Ltd.....	5 12 6	10 0 0
Bostel Bros.	5 10 6	10 4 3
Cochrane & Co. (Dudley)....	5 8 6	9 15 0
Oakes & Co.	5 8 0	9 17 6
Sheepbridge Iron Co.....	5 7 0	9 10 0
Staveley Coal and Iron Co. ..	*5 4 6	9 10 0
Rolwell Iron Co.....	5 3 6	9 12 6
Engineer's estimate.....	5 7 6	10 0 0

Contract No. 2.—Gas Engines and Pumps.

C. Cass	£960 0 0	Hayward, Tyler & Co.	£397 17 0
A. & C. Bridgland	658 0 0	National Gas Engine Co. ..	394 10 0
Glenfield & Kennedy ..	544 0 0	Kynocha, Ltd..	388 6 10
Hornsby & Son	513 0 0	Campbell Gas Engine Co. ..	380 0 0
Waller & Son ..	505 0 0	Crossley Bros.‡	370 0 0
Pratchitt Bros.	463 0 0	Hornsby & Son	370 0 0
Hornsby & Son	433 0 0	Worthington Pump Co. ..	368 0 0
Ruston, Proctor, & Co.	432 0 0	W. J. Bates & Co.	353 10 0
Duke & Ockenden	431 0 0		
V. H. Coates & Co.	429 15 0		

Engineer's estimate £400 0 0

‡ Recommended for acceptance.

Contract No. 3.—Laying Cast-iron Pipes and Sewer.

A. E. Appleby....	£621 5	James & Co.....	£293 0
Peattie.....	492 0	C. & H. Gasson ..	239 10
G. Wells	338 10	H. Young, E. Grinstead *	239 10
Bostel Bros.....	299 0		

Engineer's estimate, £255.

Contract No. 4.—Erecting Engine House.

J. Peattie	£388 0	G. Wells	£305 0
H. Young	367 10	C. & H. Gasson, E. Grinstead*..	298 0
A. H. Wood	329 16	Bostel Bros.....	290 0
Brooker Bros.....	311 0		

Engineer's estimate, £320.

GORDONSBURGH (Scotland).—For erecting house in March-street, for Mrs. Slater. Mr. W. Hendry, architect, Buckie:—

Mason: A. Morrison, Buckie* .....
Carpenters: A. Hendry & Sons, Buckie*
Slater: J. Barclay, Buckie* ..... } £413 13 6
Plumbers: J. & T. Campbell, Buckie*..
Plasterer: R. Hume, Buckie* .....
Painters: R. Duncan & Sons, Buckie*..

HARBLEDOWN. — For sewers, manholes, etc., Harbledown, near Canterbury, for Bridge Rural District Council. Mr. A. Bromley, Engineer Radnor-chambers, Folkestone, and at Canterbury:—

D. G. Kendon.....	£3,370 15 2
E. H. Bate & Co.	3,154 12 4
G. G. Rayner	3,124 5 7
A. E. J. Price	3,003 1 11
G. Browning	2,990 0 0
W. Judges	2,972 0 0
A. S. Ingleton	2,908 3 3
G. E. Wallis & Sons	2,860 0 0
H. V. Smith & Co.....	2,856 7 3
W. J. Adcock & Son, Canterbury, Kent*	2,692 18 8

KINGSTON-ON-THAMES.—For taking down drill hall, for the Territorial Force Association of the County of Surrey. Messrs. Jarvis & Richards, architects and surveyors, 10, Queen Anne's-gate, S.W.:—

	Builder agrees to pay.	Employer to pay.
F. Dent.....	—	.... £350
F. Morley.....	—	 227
S. Kavanagh	—	 200
D. Macrostie	—	 195
S. N. Soole & Son	—	 180
J. Moyes	—	 122
Jarman & Co.....	—	 90
J. Baptiste } T. J. Cooper }	—	 45
J. May } W. Marshall }	—	 5
R. Harman & Co.	—	.... —
G. Coker	£12 10 0	.... —
Tatum	22 0 0	.... —
T. J. Hawkins	30 0 0	.... —
J. J. Baptiste	55 16 6	.... —
G. Thomas & Sons	62 10 0	.... —

KINGSWOOD.—For the erection of a house. Messrs. La Trobe & Weston, F.R.I.B.A., 44, Corn-street, Bristol:—

Perrott	£1,373	E. Clark & Sons ..	£1,111
Foster	1,285	Hodges	1,096
Beach	1,277	Marsh & Stone	1,075
Downs & Son	1,240	Adams & Jefferies .	1,060
Chorley & Son	1,202	S. Milsom	1,050
C. Taylor	1,169	O. Lovell	1,049
Walters & Son	1,165	Marsh	1,035

LANGWITH.—For erecting caretaker's lodge at the Langwith District Hospital, for North Derbyshire Hospital Committee. Messrs. Rollinson & Son, architects, Chesterfield:—

A. Eastwood & Sons, Warsop* £253

LEYTON.—For school cleansing, 1908, for Leyton Urban District Council:—

	Capworth-street. £ s. d.		Davies-lane. £ s. d.
G. Gorringe.....	592 5 2½	....	—
W. S. Sharpin.....	579 9 0	....	602 1 9
J. F. Penn	570 0 0	....	—
Cainan & Son.....	542 0 0	....	489 0 0
W. F. Guppy	540 0 0	....	460 0 0
J. W. Jerram	488 0 0	....	459 0 0
Vigor & Co.....	458 0 0	....	—
Hegg & Co.....	450 0 0	....	495 0 0
E. A. Hough	398 0 0	....	445 0 0
Squire & Farrant	389 10 6	....	328 7 6
W. Bickerton	385 0 0	....	383 0 0
F. & E. Davey	375 0 0	....	444 0 0
Patman & Fotheringham	370 0 0	....	360 0 0
W. J. Clemens	362 0 0	....	380 0 0
Harris & Winter.....	359 8 0	....	449 10 0
Rayner & Co.	348 0 0	....	—
Brown & Son	346 10 0	....	354 0 0
J. & J. Dean	345 0 0	....	356 0 0
Mills & Boucher.....	—	....	325 18 0
H. C. Horswill	331 0 0	....	319 0 0
Newmans	295 10 0	....	289 15 0‡
Woollaston & Co., Limehouse*	360 0 0	....	309 0 0*
Woollaston Bros., South Hackney*	280 0 0*	....	350 0 0

‡ Withdrawn.

LLWYNYPIA.—For erecting a house for Messrs. the Glamorgan Coal Co., Ltd. Mr. Edgar G. C. Down, A.R.I.B.A., 31, High-street, Cardiff. Quantities by architect:—

Evans Bros.	£5,453 0 0
S. Shepton & Son	5,391 15 0
W. Thomas & Co.	5,183 0 0
E. Turner & Sons	5,037 0 0
A. Richards.....	5,010 0 0
Stephens, Bastow, & Co.	4,978 0 0
Blacker Bros.	4,800 0 0
Gough Bros.	4,716 0 0
E. R. Evans & Bros.	4,545 0 0
G. Hallett, Cardiff*	4,500 0 0

LONDON.—For alterations to laboratories at 17, Bloomsbury-square, for the Pharmaceutical Society of Great Britain. Mr. Geo. A. Lansdown, F.R.I.B.A., architect, 9, Regent-street, London:—

Brown & Sons	£840	H. & E. Lea.....	£699
Baird & Tatlock....	720	Parkinson & Sons* ..	647

For Alterations to Heating Apparatus.

W. Stainton	£135 10 0
Moorwood, Sons, & Co.*	108 10 0

LONDON. — For alterations and additions at the Blenheim Club, King-street, St. James's for the Club Trust, Ltd. Mr. Geo. A. Lansdown, F.R.I.B.A., architect, 9, Regent-street, S.W.:—

Eastlakes, Ltd.....	£1,666	H & E. Lea	£1,232
Johnson & Co.....	1,470	J. Marsland & Sons*	1,225
W. Johnson & Co., Ltd	1,457		

LONDON.—For supply of 50,000 Jarrah-wood blocks, for the London County Council:—

	1,000 Blocks.
W. Griffiths & Co., Ltd.	£5 16 6
Millars' Karri & Jarrah Co. (1902), Ltd.	5 14 0
Acme Flooring and Paving Co., Ltd., Victoria Park, N.E.*	5 11 0
W. W. Howard Bros. & Co.	—‡

‡ Tender not to specification.

LONDON.—For fuel economisers for Greenwich generating-station, for the London County Council:—

Clay Cross Co.....	£3,990 12 6
A. Lowcock, Ltd.....	3,960 0 0
Roberts Bros.	3,957 10 0
Goodbrand & Co.....	3,935 13 0
E. Green & Son, Ltd.*	3,874 4 0
E. Danks & Co. (Oldbury), Ltd. ..	3,378 0 0
J. Carter & Sons	3,360 8 6

[The estimate of the Chief Officer of Tramways comparable with the above-named tenders is £4,000.]

[Messrs. E. Green & Son, Ltd., to sublet to the undermentioned firms (or to such other persons or firms as may be approved by the engineer under the contract), the undermentioned portions of the work specified (1) to the British Thomson-Houston Co., Ltd., the induction motors; (2) to the Llewellins Machine Co., the worm gears; (3) to the British Westinghouse Electric and Manufacturing Co., Ltd., the starting switchboards; and (4) to R. Wagner, the pyrometers.]

LONDON.—For reconstruction of tramways from "Britannia," Camden Town, to Hampstead Heath—Tenders for roadwork etc., for the London County Council:—

—	Tramway Works. £ s. d.	Paving Works. £ s. d.	Total.] £ s. d.
J. Mowlem & Co., Ltd....	34,621 5 2	1,722 12 6	36,343 17 8
A. M. Coles	34,519 9 4	1,218 5 1	35,737 14 5
W. Manders, Leyton*	33,317 13 7	1,783 14 9	35,101 8 4

[The Chief Engineer's estimates comparable with the tenders are £34,699 19 5 for tramway works, and £1,744 5 11 for paving works, or a total of £36,444 5 4.]

[W. Manders to sublet to the undermentioned firms (or to such other persons or firms as may be approved by the Engineer under the contract) the undermentioned portions of the work—(1) to the Anderston Foundry Co., Ltd., the cast-iron yokes; (2) to the Associated Portland Cement Manufacturers (1900), Ltd., Hall & Co. (Croydon), Ltd., or Coles, Shadbolt, & Co., the cement; (3) to Bayliss, Jones, & Bayliss, Ltd., or the Deritend Stamping Co., Ltd., the tie bars, bolts, and nuts, etc.; (4) to Callender's Cable and Construction Co., Ltd., the jumper cable; (5) to Hadfield's Steel Foundry Co., Ltd, the plough hatches, etc.; (6) to the Lahmeyer Electrical Co., Ltd., or the Forest City Electric Co., the bonds; and (7) to the Improved Wood Pavement Co., Ltd., the wood paving.]

LONDON.—Street lighting fittings, for the Fulham Borough Council:—

—	— £ s. d.	Alternative Cost. £ s. d.	— £ s. d.
Beeston Manufacturing Co.....	224 0 0	244 0 0	206 10 0§
Baxendale & Co.....	214 7 6	231 17 6	—
W. Sugg & Co.....	179 7 6	196 17 6	—
W. Edgar	148 15 0	170 12 6	163 6 8¶
Verity's, Ltd.....	166 5 0	214 7 6	201 5 0¶
General Electric Co.	135 12 6‡	166 5 0‡	—

‡ Exclusive of lamps and lampholders.
§ If top casting in one piece.
‖ With spring attachment.
¶ If with screws.

LONDON.—Reconstruction of sewers in Brompton-square, for Kensington Borough Council :—

J. Moran & Son, Ltd.	£921	E. Rogers & Co.	£792
C. W. Killingback & Co.	810	G. Wimpey & Co. ..	779
		J. Mowlem & Co., Ltd.*	756

[Borough Engineer's estimate, £917.]

LYMINGTON (Hants).—For alterations and additions at Efford Park, Lymington, for Mr. J. B. Whitehead. Mr. Geo. A. Lansdown, F.R.I.B.A., architect, 9, Regent-street, London :—

H. & E. Lea	£3,790
H. Preston	3,650
Collins & Godfrey	2,975
Rashley & Co	2,847
Kirk & Kirk, Westminster*	2,783

LYMINGTON (Hants).—For three farm labourers' cottages at Lymington, for Mr. J. B. Whitehead. Mr. Geo. A. Landsdown, F.R.I.B.A., architect, 9, Regent-street, London :—

Rashley & Co.	£795 0	H. Preston, Lymington* ..	£765 10
W. Hackwell	792 0		

MARDY.—For an additional pavilion, etc., at Mardy Isolation Hospital, Merthyr Tydfil, for the Corporation. Mr. Thos. F. Harvey, Borough Engineer, Merthyr. Quantities by Engineer :—

D. Davies & Sons, Trade-street, Cardiff* £3,370

PETERBOROUGH.—For Dogsthorpe, Garton End and Newark water supply, for the Rural District Council. Mr. R. M. Parkinson, engineer :—

	Spigot and Socket and Lead.	Turned and Bored.
Midland Plumbing Co., Ltd.	£1,001 18 6	£1,628 8 6
H. V. Smith & Co.	1,448 0 2	1,461 5 2
H. E. Buckley	1,444 2 6	1,460 0 6
H. H. Barry	1,388 2 0	1,414 12 0
F. Mitchell & Son	1,373 12 9	1,426 12 9
J. Oakes & Co.	1,333 9 11	1,357 14 11
A. Bull	1,272 18 6	1,251 9 0
A. R. Knight	1,251 3 11	1,275 0 11
H. Bennett (no lead)	1,247 4 10	1,088 1 6
A. H. Tebbutt	1,240 13 9	1,244 7 3
E. W. Beech	1,228 11 2	1,218 10 5
Collingwood & Co	1,219 17 0	1,239 17 0
New England Boring Co.	1,210 19 1	1,210 19 1
A. E. Palmer	1,206 18 7	1,216 18 7
Langley & Westmoreland	1,190 2 3	1,099 11 2
H. M. Murray & Co.	1,184 8 6	1,154 6 0
Kettle & Son	1,132 10 9	1,135 18 7
W. Pattinson	1,114 16 2	1,084 4 10
A. Sykes	1,109 2 10	1,125 0 0
A. Jewell	1,103 1 10	1,098 15 3
R. C. Brebner & Co.	1,091 13 2	1,050 3 2
W. H. Hill	1,069 18 2	1,069 18 2
H. Ashley, Mansfield*	1,053 3 7	1,067 15 1
J. Pickthall	995 11 10	925 11 10

PETERSFIELD.—For roadworks, Rusher-road, for the Urban District Council. Mr. H. T. Keates, Town Surveyor, Petersfield :—

J. Butt	£632 4 2	W. N. Wheeler & Co., Blackfriars-road, London, S.E.*	£367 0 0
C. G. German ..	405 0 0		

PORTESSIE (Scotland).—For erecting a house in Chancellor-road, for Miss J. G. Taylor. Mr. W. Hendry, architect, Buckie :—

Mason : J. Dawson, Buckie* ..
Carpenters : A. Hendry & Son, Buckie* ..
Slater : J. Barclay, Buckie* .. } £653 19 6
Plumber : J. Barclay, Buckie* ..
Painter : A. Robertson, Buckie* ..
Plasterer : J. Ingram, Buckie* ..

ROMFORD.—For street works, London-road, for the Urban District Council :—

R. Stroud, jun.	£881 18 4	W. Griffiths & Co., Ltd.	£660 17 4
R. A. Bonnett	809 4 10	W. & C. French	658 0 10
H. W. Taylor	789 8 4	Parsons & Parsons	651 15 5
Grounds & Newton	737 8 0	B. W. Glenny, Brentwood-road, Romford*	648 3 6
G. Harber & Co.	704 12 11		
T. Free & Sons	695 16 3		
Wilson, Border, & Co.	673 7 3		

SOUTHAMPTON.—For asphalt paving in the roadway of the Strand, for the Corporation. Mr. J. A. Crowther, Borough Engineer :—

F. Osman	£568 10 0
London Asphalte Co., Ltd.	557 15 11
French Asphalte Co., Ltd.	545 17 6
Val de Travers Asphalte Paving Co., Ltd., London*	538 10 11

STANTON-UNDER-BARDON.—For the erection of a new elementary school, for Leicestershire County Council Education Committee. Messrs. Harding & Topalt, Architects, Hotel-street, Leicester :—

B. Shipman	£3,150 0	A. B. Moss	£2,790 7
A. J. Willemen	2,998 15	J. Marston & Son	2,744 0
W. M. Sharp	2,995 0	W. Haddon	2,680 0
J. Chapman	2,945 0	W. F. Harding	2,650 0
E. Orton	2,907 0	C. A. Dobson	2,645 0
A. E. Faulks	2,885 0	J. T. Ball	2,633 0
Toone & Warrington	2,849 10	F. Sleath, Rothley*	2,575 0
E. Fox	2,849 0		

SWANSEA.—For rebuilding Nos. 2 & 3, High-street, for Messrs. D. Jones & Co., Ltd. Mr. C. T. Ruthen, architect, Swansea :—

G. Mercer	£2,260 0 0
D. Davies & Son	2,223 0 0
C. Marles	2,200 0 0
D. Jenkins, Ltd.	2,175 0 0
Lloyd Bros.	2,150 0 0
H. Billings	2,125 0 0
T. Richards	2,000 0 0
R. Lacy	1,985 10 0
J. Marles & Sons	1,985 0 0
J. & F. Weaver, Mansellton, Swansea*	1,950 0 0

WANSTEAD.—For widening a portion of Blake Hall-road, for the Urban District Council. Mr. C. H. Brissey, Surveyor, Council Offices, Wanstead, N.E. :—

D. T. Jackson	£862 18 3	Parsons & Parsons	£555 0
J. C. Base	760 16 0	O. T. Gibbons	525 0
W. Border	760 0 0	W. & C. French	493 0

[Surveyor's estimate, £490.]

WHITCHURCH.—For raising and draining a short length of College-road, for Llandaff and Dinas Powis Rural District Council. Mr. J. Holden, Surveyor, 20, Park-place, Cardiff :—

W. Lewis-Meredith	£209 0 0	C. Davies	£137 3 6
K. G. Cox	162 7 6	E. Williams	125 0 8
E. W. D. Evans	147 2 6	W. Watkins, Mill House, Dinas Powis*	112 10 0
T. Rich Williams	143 19 0		
E. Rees	139 12 6		

WOOLSTON.—For road-making and drainage works for the development of Roselands Building Estate. Mr. W. Burrough Hill, surveyor, 81, Above Bar, Southampton :—

Grounds & Newton	£550 0 0	R. W. Watson	£415 0 0
R. Richards	467 0 0	F. Osman	396 0 0
W. Jupe	455 0 0	J. Douglas	374 0 0
J. C. Trueman, Ltd.	444 0 0	J. Butt, Southampton*	369 3 4

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Books.

Archæologia; or, Miscellaneous Tracts Relating to Antiquity. Published by the Society of Antiquaries of London. Second series. Volume X. (London: Bernard Quaritch. 1907.)

QUITE a new way of surveying our antiquities is to photograph them from the altitude of a war balloon. This has been done by Lieut. P. H. Sharpe in the case of Stonehenge, and the result communicated to the Society of Antiquaries by Col. J. E. Capper, R.E. The latest volume of the series, entitled "Archæologia; or, Miscellaneous Tracts Relating to Antiquity," published by the Society, is enriched with two photographs of the gigantic circle and its approaches, one of which was taken immediately over it and the other at a little distance from it. Beyond the ring of mighty stones the great circular embankment of earth encompassing it is clearly and impressively indicated; and we may see the different roads and paths in connexion with it well marked also.

An interesting subject treated in this volume is the discovery of an Anglo-Saxon cemetery close to Ipswich. This acquisition was the result of the discernment of the writer of the particulars given to the Society, Nina F. Layard. Noticing some levelling undertaken to provide work for the locally unemployed, and following up impressions, it was eventually ascertained that the land under treatment was the area of an ancient burial-place. Upwards of 150 graves were opened and carefully examined, with the assistance of the Ipswich Museum in the way of funds. The skeletons, with but two or three exceptions, faced the north-east; one faced the south, and one the east. In the graves of these old inhabitants of the district were found many weapons, ornaments, and miscellaneous objects. There were as many as thirty-two bead necklaces, or 848 beads, all, except in four instances, in the graves of women. Many of the beads were of amber, the rest of glass, vitreous pastes, and crystal, and of graduated sizes; some were of elongated form, and many enriched with devices or designs. One necklace was composed of as many as ninety-four beads, another of fifty-four, and others of diminishing numbers down to five. In one grave —where there was only the skull of a male— there was one bead; in another, where there were no bones, there was also one bead. There were many more ornaments brought to light, such as twenty brooches and sixteen buckles; and there were also many more miscellaneous articles, such as twenty-four urns, forty-two spearheads, seventy-seven knives, two combs, two pairs of tweezers, four strike-a-lights, and four drinking-cups. Only two coins were noticed, one of which bore the stamp of Marcus Aurelius, A.D. 161, and the other that of his wife Faustina. The evidence of the relics points out the Anglo-Saxon dames wore girdles from which they slung their keys and other pendants, also necklaces, bracelets, brooches, and buckles; and a spindle wheel bears testimony to their industry. Bosses of shields and heads of spears and javelins maintain the character contemporary poets gave the men as warsmiths.

Other communications to the Society tell of further investigations in the earth beneath at Caerwent and Silchester, as well as on a Yorkshire moor; and two relate to architectural details, the sculpture in the Judgment Porch and Angel Choir of Lincoln Minster, and some details of the Almery in Selby Abbey Church, and other receptacles for relics.

Mr. Lethaby deplores the manner of the new head and arms given to the noble Christ and the new heads, hands, and censers given to the angels in the quatrefoil above the two arches in the Lincoln tympanum, and goes very minutely into the traditions concerning the subjects considered suitable for the position in Paris, Amiens, Laon, Rheims, and Treves. He concludes that the work at Lincoln was much influenced by that at Westminster, and records his opinion that the Angel Choir represents the Fall, the Redemption, and the Last Judgment with attendant angels. The Selby Almery, described by Mr. W. H. St. John Hope, was burnt in the Great Fire. It was of XVth-century work, and filled the space between two of the clustered pillars of the nave, and was about 14 ft. long and 8 ft. deep. The front consisted of five panels enriched with tracery, and had an ornamented cornice. At the west end was a narrow cupboard, probably intended for items used in processions. Fortunately photographs had been taken of it before the dire calamity. Wensley Church is illustrated with its poor-box attached to its example; as is the Almery in Gloucester Cathedral. The sites of others at Winchester, Canterbury, Durham, and Rochester are described; and the grand example that has survived so much in St. Alban's Abbey Church, and is now known as the watching-loft, is also illustrated. The same zealous antiquary describes the funeral effigies of the kings and queens of England kept in the Islip Chapel in Westminster Abbey; and his account is supplemented with a note by the Dean of Westminster. He considers the earliest one was borne in the funeral procession of Henry III., and the last in that of James I. Documentary evidence gives the name of Stephen Hadley as having been paid for making the representation of Edward III. Akin to these curiosities are the episcopal ornaments of William of Wykeham and William of Waynfleet. Those relating to the first-named consist of fragments of his mitre, two leather mitre cases, two rings, his gloves, and a jewel of fine workmanship; those that belonged to the latter are his buskins and sandals and a pair of white leather shoes, all of which are illustrated. The chalices and crosiers found in the graves of bishops of St. David's are also depicted. A set of table-knives made for John the Intrepid, Duke of Burgundy, illustrated in colours and described by Mr. O. M. Dalton, take us back to the days before forks, when meat was carved with one knife and lifted to the plate intended for it with another. This set consists of four knives, two large and two small; the larger for the carver, the smaller for the great noble or prince to whom they belonged. The handles are richly ornamented with heraldic and floral devices and mottoes. They are to be seen in the British Museum. A very careful description of the Cistercian Abbey of Stanley, Wiltshire, by Mr. Harold Brakspear, forms agreeable reading. The solitary fact that the cloister was 240 ft. in length conveys a good impression of the importance of this abbey. The very numerous encaustic tiles found from time to time are illustrated. In short, the Society of Antiquaries illuminates many a past page in the history of the land with unimpaired feeling and skill.

Architectural Description of Kirkstall Abbey. By W. H. ST. JOHN HOPE, M.A., and JOHN BILSON, F.S.A. (Leeds: Printed for the Thoresby Society. 1907.)

AMONG the monastic ruins of the United Kingdom, Kirkstall Abbey, near Leeds, holds an important place as a particularly interesting and complete example of a church and monastery of the Cistercian order. In recent years judicious repairs have been carried out, walls strengthened, the ivy and trees removed, and the buildings generally made much more secure.

The Thoresby Society, as Volume XVI. of their publications on matters of local interest, has now published a very full and detailed account, which will no doubt be henceforth the standard work on the subject. The volume consists of two papers, the first dealing with the church and buildings as a whole, giving a careful description of all the architectural features of the monastery, and the changes through which some of the buildings have passed, by Mr. St. John Hope; the second paper, by Mr. Bilson, dealing more particularly with the church, the characteristics of Cistercian churches both at home and abroad—in connexion with which a very interesting series of plans, drawn to a uniform scale, is given—and a number of interesting notes on the rise and rules of the Order and the influence these latter had in maintaining, at all events for some years, the simplicity in planning, arrangement, and detail of their churches.

Throughout the work is copiously illustrated from photographs of the buildings from every point of view, which help to explain their arrangement or detail. Those of the church and chapter-house are particularly good, and of almost equal interest are the views, exterior and interior, of the churches of Pontigny and Fontenay, both valuable as examples of churches still in use. In England and Wales only two Cistercian churches—and in each case only a portion of the whole—are still roofed and used for divine service, namely, the nave at Margam and the presbytery at Dore.

A large folding ground plan is issued with this interesting volume, showing by colours the different dates of the various portions of the church and monastery, all described fully in Mr. Hope's paper and report.

Selby Abbey. By C. H. MOODY. (London: Elliot Stock. 1908.)

SINCE the disastrous fire at Selby Abbey on October 19, 1906, great efforts have been made to obliterate all traces of the extensive damage done to the whole building, and much has already been done to bring it back to something of its former state. The repairs to the nave have been completed, the work in the choir is in progress, the central tower is being raised to what appears to have been its original height, and hopes are entertained of raising a sufficient sum for the rebuilding of the south transept on the old lines. Fortunately, in spite of the destruction of the fittings, the fine oak font-cover was saved.

This guide gives a good general account of the building and the main points of its history, and it is plentifully illustrated with reproductions of pen-and-ink and pencil

drawings by Mr. E. Ridsdale Tate, and in addition there are a number of photographs showing the building before and after the fire, and a good ground plan.

The Petit Trianon, Versailles. By JAMES A. ARNOTT and JOHN WILSON, architects. Part III. (London: B. T. Batsford. 1908. 21s.)

WE have now the concluding section of Messrs. Arnott & Wilson's fine monograph on Gabriel's little palace, which is accompanied by a general description of the building. Like other palaces of the period, it was designed for show and luxury in the entertaining rooms, with little regard to hygienic considerations in the subordinate apartments, especially in regard to the basement, where much space is lost owing to the arrangement for lowering the dining-table from the dining-room above.

Nearly all the rooms are panelled in oak, with considerable variation in design. The doors, it is observed, are thin, varying from 1¼ in. to 1½ in. in thickness. The floors of most of the rooms are of oak parquetry built up in squares of over 3 ft. The panelling throughout the building was originally painted in a pale shade of bluish green, the carvings picked out in white and gold. In the time of Louis Philippe the woodwork was painted a greyish white and still remains so. The authority for the original treatment is M. De Nolhac, who has made Versailles a special study.

The plates in the present volume include the plan of the ground floor; section and details of the staircase, with its fine ramp of iron supports and brass foliage; a large-scale elevation of part of the dining-room panelling and doors, with enlarged details of the carving; details of the Salon, Boudoir, and Bedroom; photographs of interiors and furniture, with details of the furniture, etc.

We congratulate the authors on the successful completion of a very fine monograph of a building which is equally interesting on historical and on architectural grounds.

The Franco-British Exhibition Illustrated Review. Edited by F. G. DUMAS. (London; Chatto & Windus; 1908. 6s.)

THIS book constitutes a most beautiful souvenir of the artistic section of the Franco-British Exhibition, containing as it does an immense amount of well-executed photographic reproductions of pictures, sculpture, furniture, and objects of art generally, at an extraordinarily low price. The illustrations are the sole value of the work; the writing consists of the usual commonplaces; but one thing we learn from it, viz.: that M. Rodin, who was very little illustrated among the French sculpture, had demanded as a condition of sending a considerable number of his works, that he should have a separate gallery for them, as if he were on a different level from all other French sculptors; a piece of vanity in which he is supported by the writer of the "Review," but which the French Fine-art Committee very properly refused to indulge him in.

An Old York Church: All Hallows in North-street. Depicted by MABEL LEAF and E. RIDSDALE TATE. Edited by the REV. P. J. SHAW, Rector. (York: The Church Shop. 1908.)

THIS is a large and finely got-up monograph of which we presume that the literary portion is by the Rector. It contains a historical account of the church, together with abstracts of wills and other documents relating to the fabric. The architectural drawings—lithographs, are by Mr. E. Ridsdale Tate, who has in former days contributed some important illustrations to this journal, and include a number of fine free sketches of the carved angels on the XVth century roof of the choir. Coloured reproductions of the stained glass are given; this is of considerable interest, especially the very curious one representing in various scenes the end of the world.

Mr. Tate gives measured elevations, section, and plan. The church is one of those with nave and both aisles roofed to the same height, as in many Devonshire churches. The north wall appears to be leaning outwards considerably. The plan has been set out anyhow; the north and south walls are not parallel, and the west wall is at a considerably oblique angle to both of them. This latter obliquity looks as if it had arisen from following an exterior line of the site, but there is nothing to indicate whether this was so, and no explanation of the fact is offered.

In the main, however, this is a very good example of a monograph on a mediæval church.

The Edwardian Inventories for Buckinghamshire. (Alcuin Club Collections. Vol. IX.) Edited by F. C. EELES, F.R.Hist.Soc., F.S.A.Scot. From transcripts by the REV. J. G. BROWN, B.A. (London: Longmans, Green, & Co. 1908.)

THE Alcuin Club, to whom we are indebted for the publication of these Inventories, was formed with the object of promoting the study of the history and the use of the Book of Common Prayer.

In so far as the publication of these Inventories is concerned, we judge that the Society is doing extremely valuable work, and moreover carrying it out on thoroughly sound lines. The bulk of the Inventories printed in this volume were taken under a Commission dated May 16, 1552, and their apparent purpose was to check the theft of precious vessels and vestments from the parish churches. It would seem, however, that in addition their ultimate object was to secure for the use of the King any plate or valuable objects that might be alleged to be superfluous for the celebration of Divine worship.

The Inventories are in the form of indentures between the Commissioners and the churchwardens of the various churches, and they set forth among other things that all goods, plate, jewels, and other ornaments are committed to the custody of the churchwardens "until such time as the King's majesty's pleasure be further known." A list of all the various objects then follows, and one copy of the indenture was signed by the churchwardens and exchanged for a duplicate signed by the Commissioners. It was not until about the beginning of the year 1553 that the actual confiscation of the superfluous goods occurred, and when this took place it appears that a further set of indentures were made whereby the churchwardens "received" from the Commissioners a chalice and patten, a surplice, some linen cloths, and the bells, all of which were to be held during the King's pleasure only.

We notice that what appears to be a curious error seems to have crept into the introduction.

On page xx. it is asserted that:—"In the inventory of Eddlesborough occur the noteworthy entries:—'A pyxe of laten that the sacrament lyeth in.' 'A canopy with iij crowns of laten that hangeth over the sacrament.'

"From this we gather that the Eucharist was still reserved in the pix hanging over the altar at Eddlesborough as late as July, 1559."

We have examined the inventory printed on page 67 under the heading of Eddlesborough, and we find that it is dated July 23, 1552, and there is nothing in any part of the document as printed to warrant the above assertion. We presume this is simply an error due to a careless correction of the proof sheets, and if this be the case and the date July, 1559, is a mistake for July, 1552, there is nothing particularly noteworthy in the circumstance, for the inventory was taken prior to the issue of the Second Book of Common Prayer, which omits the directions regarding the reservation of the Eucharist which the first edition contained, and the annexation of the Church property occurred at a date subsequent to the issue of the second edition.

For the same reason we attach no particular importance to the evidence cited on page xxii. with regard to the reservation for the sick at Saffron Walden, in Essex, as late as October 5, 1552; more especially if we consider the purpose for which the Inventories were prepared.

An alphabetical index of places would have been a welcome addition.

London Churches, Ancient and Modern. By T. FRANCIS BUMPUS. (London: T. Werner Laurie. 1908.)

MR. BUMPUS'S writings upon the cathedrals and churches at home and abroad are known to a wide public. For the general public they contain just what is desired—knowledge of the subject combined with a genuine love of architecture and sufficient literary skill to be very readable. The present work, of which there are two volumes, is perhaps of more value than anything the author has yet undertaken. Hidden in out-of-the-way corners of the great Metropolis of London, known only to a few ecclesiological and architectural enthusiasts, there are many churches both ancient and modern of historic and architectural significance. The mere compilation of a list of these churches is no light matter, and Mr. Bumpus would have performed a useful work in publishing such a list. These volumes, however, have a more ambitious object; they treat in a consecutive way of churches and church building from the XIIIth century down to the present day. The author's method is somewhat diffuse, and exhibits the strength and weakness of wide sympathies and considerable general information.

The account of the Renaissance churches, including the pupils and successors of Wren, is illuminating and sufficiently personal to be very readable. To our mind the most interesting part of the book is that dealing with the artists of the Gothic Revival. Mr. Bumpus shows us this period of great architectural activity in its proper atmosphere. Its enthusiasms, its failure, in so far as it was a resurrection of dry bones only, and its extraordinary success, in so far as it was vital—the birth of a living style. The inner history of the inner circle of the Gothic Revivalists to whom English architecture is so deeply indebted, still remains to be written and illustrated. The chapters in the second volume dealing with this subject will perhaps reach a public not accessible through a more complete work.

The book is illustrated with a fair number of good photographs which show more than usual taste and skill in their selection and point of view.

Publications of the Surtees Society. Vols. 114 and 115. (London; Bernard Quaritch: Durham; Andrews & Co. 1908.)

THE Surtees Society has now issued the hundred and fourteenth and hundred and fifteenth volumes of its valuable publications. The first-mentioned is the register of Archbishop Wickwane, covering the years from 1279 to 1286, edited by Mr. William Brown, Secretary; the latter gives additional particulars concerning the church of St. Peter and St. Wilfred at Ripon, yielded by a manuscript owned by Mr. William Ingilby, and edited by Canon Fowler. Both documents are in Latin, and are full of old-world interest curious to consider.

The incidents of the seven years recorded by Archbishop Wickwane are of various kinds. One was the result of a determination to assert his right to have a cross carried before him as an indication of his Primateship, especially through the Province of Canterbury, which was resented by the Archbishop of that primacy.

Mr. Brown, with scrupulous exactness, as

he goes over the various entries, gives us clear sight of the manner of life in this far-off time. We read of the Archbishop's wine that came through Hull from a great merchant there, Hamund Box; of his plate and jewels, of twenty marks paid for a couple of pitchers; and 74 *li.*, 7s. 4d. for jewels; of the gift of a great herd of oxen, horses, and a thousand sheep to the See of York, with the proviso it was to be handed intact to each successive Archbishop. When his coffin was opened in 1669 there was a cross of copper gilt in it, besides a chalice and paten; and a gold ring, engraved with the words, "*Ave Maria gracia plena*," was still upon his thumb.

A Chart of the Arts in England, from 1660 *to* 1800. (London: Lenygon & Co. 1908. 2s. 6d.)

This publication is on a scheme which might very well be carried out on a more extended scale, embracing the whole artistic history of a century, instead of the rather arbitrarily selected period of 1660 to 1800.

In a stiff cover are bound two large sheets, on which are arranged in parallel vertical columns lists of "reigns," "ministries," "events," "contemporary art on the Continent," "painters and sculptors," "engravers," "various arts and crafts," "buildings," "architects," "books on architecture," "books on furniture and decoration," and "general works" of literature. In the horizontal direction, across the page, they are divided by cross lines into decades. We thus see at a glance what buildings, etc., were contemporary with what reigns, national events, and important publications.

A mere glance at such a comparative chronological list is sufficient to show its interest, and the contemporary events mapped out are very suggestive. The price is small, and the utility and interest of the publication very great.

If this is an experiment on the part of the publishers in this way of dealing with a limited period in English history, we hope they will receive encouragement to carry the idea farther, and to compile similar charts from the earlier period of our history, say from the Conquest. Such charts ought to be very valuable to students, as giving a view of the relation of art to history.

Wanderings in Piccadilly, Mayfair, and Pall Mall.

This small and decoratively-bound book is mainly concerned with the social history and recollections connected with the London districts mentioned in the title; but it gives also reproductions from old engravings of some portions of the district as it was in times past; most of them familiar to all students of London topography, but not equally familiar to the general reader. The book is interesting and contains a great many characteristic anecdotes of old London life and society; and as a little book for general readers it will be useful as well as attractive, in giving information which will enable them to realise what London was a century or a century and a half before the present day.

MAGAZINES AND REVIEWS.

The *Burlington Magazine* contains an editorial article on "Re-organisation at South Kensington," in which the unjust innuendoes against the architect of the Victoria and Albert Museum, for not having provided what he had not been asked to provide, which occur in the Report of the Special Committee, are repeated here, by a writer who seems to have an animus against the architect. The dictum of the Special Committee that "galleries are to be preferred to courts for exhibiting works of art" is repeated, with the same ignorance as to conditions of planning and lighting, and the same indifference or blindness to actual facts. Any one can see for himself, in the old part of the South Kensington Museum, that it is exactly in the courts that the objects exhibited are best seen, and that all the deficient lighting is in the galleries. The fact is palpable to anyone who goes through the museum with his eyes open. The Report on this point is absurd, and seems as if the theory of the unsuitability of courts for exhibiting had been set up for the express purpose of getting up a complaint against the architect; if it is not that, it is at all events a mere "fad" on the part of the Committee, in which, as already observed, no architect has been appointed.

In the *Art Journal* Mr. Alexander Millar continues his paper on the subject of "Colour and Colour-training Museums," which contains a great many good and thoughtful suggestions for carrying out the suggested scheme. Among these are the following:—The exhibiting of many-coloured objects, such as textiles, along with an analytical combination of the colours composing it, represented by strips of coloured paper, so that colour combinations and their results can be studied apart from design (a method used, we understand, in what are called "trials" in carpet manufacturing). The exhibition of modern colour designs of a good type, so that these may be recorded as models of good work, is another recommendation. There should be arrangements for showing the effect of the mixture of coloured lights—a perfectly different phenomenon from the mixture of coloured pigments; and for showing the effects of coloured lights upon objects of a different colour (it might be added also, the effects of the proximity of different-coloured surfaces on one another. and how a colour may look perfectly different by the juxtaposition of another colour, from what it appears when seen alone). The idea of a colour-training museum is such an entirely novel one that it will be rather difficult to get it accepted as a practical possibility, but is certainly worth serious consideration. As a nation, the English have very little intuitive sense of colour, but it is possible to train and develop this sense where it did not exist naturally.

The *Architectural Record* (New York) is of rather varied interest, and illustrates some good achievements in American architecture. There is the Chicago and North-Western Railway terminus, carried out in a severe classic style; the special feature which ought to characterise a terminus station, viz.: an important central entrance, is emphasised in this case by a very large open colonnade in the centre of the front, between which the large entry gates are reached. The whole of the buildings appear to have been carried out in a most sumptuous manner and of the best materials. In the design of the main waiting-hall the architects, Messrs. Frost & Granger, have owed something to the Gare d'Orléans at Paris. "The German Theatre in New York" is interesting as a remodelling of an old house in a very satisfactory manner, and with something like restrained artistic treatment in the interior. An article under the title "Along the Harlem River Branch" gives illustrations of several small railway stations along the line of country taken, which show how much more effort is made in the States than with us to treat such small station buildings in a pleasing and suitable architectural manner. An article on "A Restoration: Sta. Maria in Cosmedin," is rather startling to an English reader; it describes an apparently very drastic restoration of this ancient church by an Italian architect, Signor Giovenale, and as a justification for the whole subject, we have the following general remarks on restoration. After mentioning the names of Scott and Street, the writer goes on:—

> "These gifted men were guided in the restorations they undertook by the conservative and eclective spirit of Welby Pugin, the master mind of the Gothic revival, the man who dared 'to convict the nineteenth century of ignorance, and to twit the age of enlightenment with the absurdity of its taste and the obscurity of its artistic vision.' He held that where a detail was lost, such as the tracery of a window, a gable, a capital, a moulding, an ornament, or any other feature, its restoration must not be left to the mere conjecture or fancy of the restaurateur, but that if no portion of the old work could be found to give a clue to its restoration—a motive upon which to build the new work—then a search should be made for the model in buildings of a corresponding period and style, and, if possible, in the neighbourhood of the proposed restoration.
>
> While both Scott and Street endeavoured to adhere to Pugin's eminently common-sense principle, and to conscientiously follow the line of thought of the original architect of the building undergoing restoration, nevertheless they were never mere imitators, but did their best to comprehend the motive of the style, in order to make their art a living instrument by which to express their own genius within the confines of that style. Their theory of work is without doubt the correct method to be employed in all forms of restoration, and is a safe guide in future work of this nature, no matter what the style may be."

After all that has been said of late years as to the irreparable mischief done by Scott's restorations, it is somewhat startling to have this estimate of it from the other side of the water, which reads rather as if it had been written thirty years ago.

The *Berliner-Architektur Welt* contains illustrations of three or four large business premises; one by Herr Schaudt (Berlin), another by Herr Walter (Grunewald), and a plain brick building with symbolic shields as the only decorations, by Herr Buchholz (Steglitz), a remarkable piece of simple building on a large scale and effective mainly by the treatment of the openings. A business building on a larger scale is the "Passage-Kaufhaus," by Herr Franz Ahrens, with a great central exchange hall with a glazed dome. English architects should look at the illustrations of buildings of this class in the *Berliner-Architektur Welt*, there are good suggestions to be got from them. We have been surprised to find how little this publication illustrating the architecture of the German capital is known among London architects; it is worth more attention than it appears to receive here.

Art and Architecture, the journal of the Institute of Architects of New South Wales, contains a short article by Mr. G. Sydney Jones, on "Art of the Day" in Australia. That Art has not made much progress yet in Australia he attributes partly to want of public demand, people in Australia, as a rule, "caring for little else than the making of money"; also that Australian artists give themselves more to landscape than to figures:

> "In the study of the figure, Australian artists are somewhat backward; for some peculiar reason, not easy to see, the figure has not been a favourite subject with the many; but one thing is certain, that, until the figure is more closely studied, Australians will never see the hey-day of art, for figure subjects of national life, above all others, appeal to the public taste and mind, because they interpret the actualities of human nature. . . .
>
> In sculpture it is much the same; artists have not yet caught the spirit in which the great artists of the past have worked, but with closer study of the figure and deeper understanding of human nature the cold stone will live as it did in the old days."

Let us hope so: at all events the view taken here is a sensible one.

The *Nineteenth Century* has a very clever and sensible paper by Miss Alice Mayor on "The Amateur Artist" of to-day as compared with the amateur artist of Jane Austen's day. The difference is that Mr. Tilney and his sister (see "Northanger Abbey") had the idea that there was such a thing as composition in a picture, and that their object was to produce beauty; while the modern amateur (generally a woman) is taught at the schools to despise composition as almost immoral.

> "Harmonious! Delicate! Did anyone ever hear such words at a Government school of art? 'Strong' and 'bold' were the only complimentary adjectives I ever heard applied, and the more muddy the colour and undefined the form, the 'stronger' the picture appeared to become."

We have reason to know that this is perfectly true and not in the least overstated. Perfectly true also is the remark further on, that art-students of our day do not learn anything about architecture: "it might be the Chinese revival for all they know. A building is for them simply a mass of tone, and any detail would be 'breaking up' and 'worrying' the mass." That is what we have complained of over and over again in the treatment of architectural subjects by our younger artists, who reduce a great building to a smudge of the particular tone they want, and omit all indication of its details. Miss Mayor may have a little

exaggerated the value of the old school of amateur art, but her protest is well timed and much called for, when we see the most important art-school in London, outside of the Academy, practically given up to the methods of the New English Art Club.

In the *National Review* Mr. Charles Whibley has something to say about "London" as it was seen by Stow and as it is seen to-day. He remarks on the permanence of the main thoroughfares, so that Stow's map still represents the main plan of the city. His complaint (somewhat exaggerated) is that "speed and avarice" are together destroying the old character of London; the passion for straight lines of communication and for getting (by means of high buildings) the greatest rent out of a site. He insinuates that London is losing what gave it interest—its character—in order to become like stately continental cities, in which attempt it will not succeed. This may be true in one sense, that axial lines of laying out have not been adopted and in many cases it is too late to secure them now. But nevertheless we hold that London as a city is improving in aspect on the whole, and that Mr. Whibley is a good deal too pessimistic.

In the *Century*, under the title "The City of the Emperors," Mr. R. Haven Schauffler writes a brilliant description of Berlin—its character as a city, its architecture, and its manners, with a good many illustrations; one of the best articles of the kind that we have come across. It does not produce the impression that Berlin would be a pleasant city to live in—except for a Berliner.

In *Scribner* Mr. Cortissoz writes an article on Mr. Abbey's latest mural paintings, those for the Capitol at Harrisburg, the cartoons for which were recently exhibited in London. Some illustrations of Mr. Abbey's life-studies for these are given.

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